

# Comparison of the Basic Nutritional Characteristics of the First Extract and Second Extract of Coconut Milk

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**ABSTRACT:** Coconut milk is the aqueous extract of grated coconut kernel. In traditional cooking in the South Asian region, grated coconut kernel is hand-pressed with water to obtain a viscous white coconut milk known as first extract (FE). The coconut kernel remaining after the first extraction is further extracted with a fresh portion of water to obtain second extract (SE), which is less viscous. In the present study, the nutritional composition and the effect of FE and SE on the serum lipid profiles was evaluated. The results indicate that the lipid and protein contents of SE is equivalent to a 3 fold diluted solution of FE. However, the levels of sugars and phenolic contents of the SE cannot be achieved by the same fold of dilution of FE. There is no significant difference ( $p < 0.05$ ) in the lipid profiles of the rats fed with SE after 21 days.

**KEYWORDS:** Coconut kernel, Coconut milk, Nutrient composition, Phenolic content, Lipid profiles

## I. INTRODUCTION

Coconut milk is the aqueous emulsion of coconut kernel, which is prepared by hand or machine pressing fresh grated coconut kernel. Coconut milk has many culinary applications. Coconut milk is consumed directly or with cooked food. In the preparation of vegetable, fish or meat curries, coconut milk is added as the liquid medium for boiling such food. Coconut milk is chilled, enzymatically treated or fermented to separate coconut oil, which is also used in cooking. Coconut milk can also be spray dried to obtain coconut milk powder, which can easily be reconstituted with water either at 30°C or 100°C (not necessary) to obtain a homogeneous coconut milk solution.

Nutrient components of coconut milk include lipids, sugars, proteins and several other minor compounds. Coconut milk is different from animal milk such as cow's milk. While cow's milk has equal amounts of oil and proteins, coconut milk has ten times more oil than proteins [1]. Results of few studies on the chemical and nutritional aspects of coconut milk have been reported. The fat percentage of coconut milk decreases with the volume of water added during the extraction of coconut milk and there is no remarkable difference in the fat content of coconut milk extracted with cold water (27-30°C) and hot water (88-93 °C) [2]. The total fat content varies from 5.88% to 21.83% in coconut milk depending on the concentration of coconut milk. Total solid and total fat contents of coconut milk, coconut cream and dried coconut powder have been reported [3].

A study with alloxan induced diabetes in Sprague-Dawley rats indicates that coconut kernel protein reduces the diabetes related pancreatic damage in treated rats compared to the control [4]. In addition, inclusion of coconut protein and L-arginine into ethanol fed rats produced lower levels of total cholesterol, LDL + VLDL cholesterol, triglycerides