

Development of Dairy Free Cereal Based Coconut Yoghurt Rich with Naturally Formed Vitamin B₁₂

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Yogurt is a popular fermented dairy product and the study was designed to access the possibilities to develop a dairy free cereal based coconut (DFCBC) yoghurt which broadens the diversity of yoghurts, while enhancing its health benefits. DFCBC yoghurt with naturally formed vitamin B₁₂ was produced by incorporating four different ratios of coconut milk and rice milk (cooked rice fermented with coconut water for 12 hours) while replacing cow's milk. Yoghurt was produced with inoculating starter culture of *Lactobacillus bulgaricus* and *Streptococcus thermophilus* (0.025%) to achieve a pH of 4.5 while replacing gelatin with different combinations of agar-agar, carrageenan and pectin. Best combination of coconut milk: rice milk having product was further succeeded with different flavor components (vanilla, coconut honey and banana) to obtain the best quality product. Proximate analysis [moisture, ash, fat, protein, carbohydrates (AOAC methods), total solids (TS), vitamin B₁₂ (HPLC method)] and shelf life determination were conducted for the final product. Sensory analysis was done using thirty semi-trained panelists and results were statistically (Kruskal-Wallis) analyzed. The product obtained with 1:1 ratio of coconut milk to rice milk including 1.25% agar-agar, 0.15% carrageenan, 0.1% pectin and addition of coconut honey as the natural sweetener was selected as the best combination for DFCBC yoghurt. Proximate analysis revealed the availability of 66.03 ± 0.05% moisture, 11.87 ± 0.04% fat, 1.34 ± 0.02% protein, 0.72 ± 0.01% ash, 0.36 ± 0.01% crude fiber, 19.68 ± 0.23% carbohydrate, 33.97 ± 0.12% of TS and 1.5µg Vitamin B₁₂ per 100g of the yoghurt and observed for a shelf life of 30 days at 4°C, proving absence of *Escherichia coli* and mold count, lower yeast count (<10 cfu g⁻¹), pH (4.50 ± 0.04), acidity (0.87 ± 0.05) accordance with the limits of SLSI. Development of DFCBC yoghurt could be used to satisfy consumer demands for the healthy functional foods with versatile health-benefits.

Keywords: Coconut yoghurt, Cereal based yoghurt, Rice milk, Dairy free yoghurt, Vitamin B₁₂