

Abstract

Physicochemical and Sensory Properties of High-Fiber Yogurt by Regenerated Pomelo Albedo Fiber [†]

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Abstract: This research aimed to develop high-fiber yogurt using dietary fiber from the regenerated pomelo albedo fiber (RPF). The 3 × 3 Factorial in CRD experiment was conducted by varying the ratio between pomelo rind fiber and distilled water (1:6, 1:8, and 1:10) and the concentration of phosphoric acid 85% (20%, 40%, and 60%) for the RPF, then they dried by a spray drying process. The PF was 1:10 and 20% phosphoric acid, resulting in optimal RPF powder. The RPF had water absorption index of 0.78% and viscosity of 14.20 cP. A CRD experiment was conducted to find the optimal RPF content (0, 3, 6, 9, and 12%) in yogurt. It was found that consumers accepted yogurt with 6% RPF with 3% sugar. The developed yogurt had a pH of 4.46. The viscosity was 54.2 cP, the water separation was 19.6%, and the L*, a*, and b* values were 84.1, 3.0 and 7.7 respectively. It had a moderate liking score (7.1), with 94% of consumers (n = 100) accepting the product and 87% interested in buying the developed yogurt. The developed yogurt contained more than 5 g of dietary fiber per 1 serving, which can be claimed as a high-fiber product as recommended by the FDA.

Keywords: yogurt; pomelo albedo; dietary fiber; physicochemical property; consumer acceptance

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