

Title:

Influence of coconut residue dietary fiber on physicochemical, probiotic (*Lactobacillus plantarum* ATCC 8014) survivability and sensory attributes of probiotic ice cream

Journal:

LWT, Volume 154, 15 January 2022.

Document Type:

Article

Authors:

Hanafi, F.N.A,
Kamaruding, N.A,
Shaharuddin, S., shahrulzaman@unikl.edu.my

Full text link:

Publisher : <https://www.sciencedirect.com/science/article/pii/S0023643821018788>

Scopus preview:

<https://www.scopus.com/record/display.uri?eid=2-s2.0-85118868086&doi=10.1016%2fj.lwt.2021.112725&origin=inward&txGid=8d94a3bd116ddb0c90bb31a69606dc7>

Abstract:

Probiotic ice cream serves as a functional food, but potential loss of probiotic viability occurs during product formulation, processing, and storage. Hence, this study aims (1) to formulate a probiotic (*Lactobacillus plantarum* ATCC 8014) ice cream added with coconut residue, (2) to determine the impact of the coconut residue on probiotic ice cream characteristics during 60 days of storage, and (3) to assess the acceptance of the ice cream enriched with probiotics and coconut residue. The ice cream was produced by using non-fat milk powder, milk fat, heavy cream, sugar, egg yolk, stabilizer, and maltodextrin, added with 1% of *L. plantarum* and different concentrations of coconut residue fiber (0.01–0.03 g/mL). The results revealed that ice cream incorporated with 0.02 g/mL of coconut residue was the best formulation for probiotic ice cream production. Throughout the storage period, it possessed stable probiotic viability, soft texture, low melting rate, high protein, low-fat, appropriate pH for probiotics, and acceptable sensory ratings for overall consumer acceptance. The synergistic combination of coconut residue and probiotics in ice cream is a potentially novel strategy for producing a nutritious dessert item beneficial to human health as well as reducing potential pollution by the agricultural industry.