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Effect of microfibrillated cellulose extracted from mangosteen rind on physicochemical and sensory properties of modified-fat ice cream**Niramol Muangpracha, Thunnalin Winuprasith and Mingbun Jitpaisarnvatana**
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The aims of this study were to study the effect of microfibrillated cellulose (MFC) concentration on physicochemical and sensory properties of modified-fat ice cream. Aqueous MFC was prepared by extraction of ground mangosteen (*Garcinia mangostana* L.) rind with hot sodium hydroxide and subsequent shearing in a high pressure homogenizer. The full-fat (12% fat content) of chocolate ice cream using egg yolk as an emulsifier was used as a reference (R). Modified fat ice cream was formulated by using MFC to replace egg yolk and fat at 3.0, 6.0 and 9.0% by weight, which was labeled as low-fat, light and reduced-fat, formulas, respectively. For physicochemical properties, there were significantly increased in pH, overrun and viscosity correlated to the increment of MFC concentration. Melting rate and lightness were decreased at higher concentration of MFC. In contrast, MFC did not significantly affect °Brix, hardness, air cell size and fat destabilization in modified-fat ice cream. Nutritional values showed decreased in energy and fat content in modified-fat ice cream. There were increased in dietary fiber and moisture content in modified ice cream. From sensory evaluation, the optimum level of MFC was found to be 6.0%. The product was accepted by the panelists with the overall acceptability score between like slightly and like moderately. This study provided information that can be used as application of MFC in food products.

Biography

Niramol Muangpracha is a Research Staff of Institute of Nutrition, Mahidol University, Thailand. She has received her Bachelor's degree of Science from Burapha University. Her research interest focuses on food product development for nutrition.

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