

**DEVELOPMENT OF NUTRITIOUS VIRGIN  
COCONUT OIL FORMULATED  
ICE CREAM**

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## ABSTRACT

Since the false belief of virgin coconut oil (VCO) has been clarified and proved as the healthiest saturated oil, the substitution of milk fat with VCO can be used to produce nutritious ice cream with pleasant coconut flavour and aroma. The aim of this development is to develop VCO formulated ice cream which can mitigate the health concern of ice cream that contains high quantities of milk fat. Three formulations were developed whereby formulation VCO4 contains 4% VCO and 8% milk fat while formulation VCO8 contains 8% VCO and 4% milk fat. A full substitution of 12% milk fat with VCO is applied in formulation VCO12. The physicochemical properties of formulated ice creams analyzed include overrun, meltdown, pH, total solid, protein, and fat content. Meanwhile, the fatty acids profile of VCO formulated ice creams and their stability upon 3 weeks and 6 weeks storage were studied respectively using gas chromatography (GC). An ice cream sensory evaluation which involved 104 untrained panelists was conducted. Significant differences ( $P < 0.05$ ) of overrun, pH, total solid, protein and fat content between ice cream formulations were observed whereas titratable acidity for the ice cream formulations was not significantly different ( $P > 0.05$ ). The melting resistance of ice cream was lowered as VCO content increased in ice cream formulations. For GC analysis, the major fatty acid identified was lauric acid. Upon storage time, the concentration of unsaturated fatty acid decreased but the concentration of saturated fatty acid increased. From sensory evaluation, ice cream formulation of VCO12 was most preferred by panelists; the acceptance level of appearance, aroma, texture, flavour and overall acceptability was  $74.47\% \pm 13.58$ ,  $72.44\% \pm 17.52$ ,  $77.46\% \pm 13.27$ ,  $78.10\% \pm 13.71$ ,  $79.92\% \pm 10.39$  respectively. VCO formulated ice creams are well accepted by panelists and have a potential marketable value.

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