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Effect of Fractional Crystallization on Fatty Acid and Triacylglycerol Compositions of Selected Native Lipids: An Overview

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Abstract

Fractional crystallization has been recognized as a technique commonly used for modifying animal and plant lipids. When applied for semi-solid fats, fractional crystallization could yield a solid fraction called stearin and a liquid fraction known as olein. These derived lipid fractions were found to show remarkable differences from their parent lipids with regard to physico-chemical characteristics, fatty acids, and triacylglycerol compositions. Investigations on changes of chemical composition and the subsequent impact on physical characteristics are necessary for novel fat formulations in the oils and fats industry. In this overview, we tried to analyze the compositional changes caused by the fractional crystallization of avocado (*Persea Americana*) fat, engkabang (*Shorea macrophylla*) fat, lard, and mee fat (*Madhuca longifolia*). It is hoped that a critical discussion on this topic could provide some insight and future directions for the fractionation of several other unexploited native lipids.

Keywords: Fractional crystallization, lipid stearin, lipid olein, tropical fats