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Bambangan (Mangifera pajang) kernel fat: a potential new source of cocoa butter alternative

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Abstract

Bambangan (Mangifera pajang) is one of the underutilised tropical fruits found in the Borneo islands (Malaysia, Indonesia and Brunei). The physicochemical and thermal properties of bambangan kernel fat (BKF) were investigated in an effort to identify an innovative fat that could be exploited in confectionery applications. The fatty acids and triglyceride (TG) contents, melting behaviour and solid fat content (SFC) of the BKF were determined by various chromatographic and thermal techniques. BKF had three main TGs, namely 1-palmitoyl-2-oleoyl-3-stearoyl-glycerol (POS) (11.6%), 1,3-distearoyl-2-oleoyl-glycerol (SOS) (28.7%) and 1-stearoyl-2,3-dioleoyl-glycerol (SOO) (11.2%), with SOS being the major component. Stearic, oleic and palmitic acids were the dominant fatty acids with the area percentage of 36.4%, 44.5% and 8.4%, respectively. The melting behaviour indicated a single curve with only one maximum shoulder. With respect to the physicochemical and thermal properties, BKF is ideal for use in formulations (blending components) as an alternative to CB in food products, especially confectionary products.

Keywords

Author Keywords: [Bambangan kernel fat](#); [cocoa butter alternative](#); [fatty acids](#); [melting behaviour](#); [solid fat content](#); [triglycerides](#)

KeyWords Plus: [KOKUM GARCINIA-INDICA](#); [NUCLEAR-MAGNETIC-RESONANCE](#); [MANGO SEED KERNEL](#); [PHYSICOCHEMICAL PROPERTIES](#); [ANTIOXIDANT ACTIVITY](#); [BIODIESEL PRODUCTION](#); [OILS](#); [QUALITY](#); [CHOCOLATE](#); [BEHAVIOR](#)

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