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Hard cocoa butter replacers from mango seed fat and palm stearin (Article)

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Abstract

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The blending effects of mango seed fat (MSF), extracted using supercritical fluid, and palm stearin (PS) to formulate hard cocoa butter replacers (CBRs), were investigated. The triglycerides (TG), thermal properties and solid fat content (SFC) of the formulated blends were determined using different chromatographic and thermal techniques. All the blends had three main TGs; namely, 1,3-dipalmitoyl-2-oleoylglycerol (POP) (8.6-17.7%), 1-palmitoyl-2-oleoyl-3-stearoyl-glycerol (POS) (12.6-19.6%), and 1,3-distearoyl-2-oleoyl-glycerol (SOS) (37.2-31.4%), with SOS being the major component. The melting peak temperatures gradually increased and shifted towards higher temperatures with PS. The crystallization onset temperatures increased, while the offset decreased with PS. The SFC did not drop to 0% at 37.5 C, which was shifted to 0% at and above 40 C for some blends. The studies revealed that CBRs could be prepared by blending MSF and PS, and they could be utilised by chocolate manufacturers in tropical countries. © 2014 Published by Elsevier Ltd.

Author keywords

Cocoa butter replacers Mango seed fat Melting and crystallization profiles Palm stearin Solid fat content Triglycerides

Indexed keywords

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Cocoa butter replacers

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Palm stearin

Solid fat content

Triglycerides

Engineering main heading: Oils and fats

EMTREE drug terms: fat mango seed fat palm stearin Theobroma oil triacylglycerol tristearin
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Jin, J. , Zheng, L. , Mwinyi Pembe, W.
(2017) *Food Chemistry*De Novo Approach to Utilize Mango (*Mangifera indica* L.) Seed Kernel Lipid in Pharmaceutical Lipid NanoformulationChakraborty, T. , Das, M.K.
(2017) *Journal of Pharmaceutical Innovation*

Synthesis of 1,3-distearoyl-2-oleoylglycerol by enzymatic acidolysis in a solvent-free system

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(2017) *Food Chemistry*[View all 14 citing documents](#)

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