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Cocoa butter replacers from blends of mango seed fat extracted by supercritical carbon dioxide and palm stearin (Article)

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Abstract

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Mango seeds are waste agro-industrial by-products produced in large quantities in the tropical countries. Supercritical fluid extraction was used for the extraction of high quality mango seed fat from mango seed wastes. The supercritical fluid extracted mango seed fat (MSF) was blended with palm stearin (PS) at different ratios to obtain cocoa butter replacers (CBRs). A total of 10 blends were formulated and the fatty acid constituents and physico-chemical properties of these blends were analyzed. Four blends of MSF/PS (90/10, 85/15, 80/20 and 75/25) possessed fatty acid constituents, iodine value (41.8 to 42.4g I₂/100g fat), saponification value (195.7 to 195.9mg KOH/g fat), acid value (2.4 to 2.9%) and slip melting point (37.7 to 39.9°C) similar to those of commercial cocoa butter. Thus, these blends were considered recommendable as CBRs, due to their fatty acid constituents, iodine value, slip melting point, saponification value, and acid value consistent with cocoa butter. © 2014 Elsevier Ltd.

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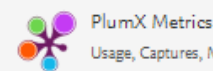
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