Physicochemical properties of bambangan kernel fat and its stearin mixtures with cocoa butter

ABSTRACT

The fractionated cocoa butter improver from the bambangan kernel fat (BKF) was blended with commercial cocoa butter (CB), and the physicochemical properties of the blends were determined. The characteristics, such as solid fat content (SFC), fatty acids composition and physicochemical properties of pure BKF, its first (S-1) and second stearin (S-2) fractions integrated with CB at varying ratios (g/100 g) were determined. B4, F4, and M4 blends containing 20% BKF or S-1 and S-2 with 80% CB showed good compatibility with the presence of 22.42–22.57% palmitic, 37.23–37.63% stearic, and 33.67–33.91% oleic acids. These blends also showed similar pattern of SFC curves as CB, at which the SFCs of the three blends dropped to 0% after 35 ◦C. Moreover, the blends also exhibited comparable iodine value (36.17–36.58 g iodine/g) and slip melting point (SMP) (28.83–29.17 ◦C) with the commercial CB. In comparison with the hard fat (S-1 and S-2), which had high SMP and stearic acid (44.71–48.51%), the fatty acids composition of fat blends significantly ($p < 0.05$) decreased and resulted in low SFC values. The results obtained in this study proposed that the best blends to converge with CB were B4, F4 and M4.