Trends in blending vegetable fats and oils for cocoa butter alternative application: A review

ABSTRACT

Background: Global demand for cocoa butter (CB) product is rising, but the production of CB does not meet the demand, and the availability of this fat is also limited. CB has specific melting properties, and the blooming effect causes defect in its physical properties. The blending of fat is one of the modification methods that offer new functional CB alternatives (CBAs) that can enhance the properties of CB and be applied as substitutes in the food industry. Scope and approach: This review describes the current trends in blending the pure or modified vegetable fats and oils for CBAs production and summarises the characteristics of the blended substances. Typical and recent fats and oils used for CBAs production, including mango seed fat, bambangan kernel fat, shea butter, kokum butter, sunflower stearin and palm oil fractions such as palm oil mid fraction and palm stearin are highlighted. The potential application of the blended fat as CBAs and the changes in their physicochemical, thermal and morphological behaviour are discussed. Key findings and conclusions: The blended fats and oils produced from different sources greatly resemble the characteristics of commercial CB with improved thermal and bloom properties. Thus, the blending processes facilitated the application of various vegetable fats and oils as CBAs to improve the physical quality of the final product in the manufacture of chocolates and confectioneries.