Detection and quantification of palm mid-fraction in a chocolate model system

ABSTRACT

The tocopherol and tocotrienol compositions of the genuine cocoa butter (CB) and palm mid-fraction (PMF) were investigated to introduce a more reliable indicator in detecting PMF in CB. The results suggested that the α-tocotrienol data presented could be utilised for the detection of the PMF admixture to CB. The PMF was added to CB at different levels. HPLC was used to detect the presence of PMF admixture to CB using α-tocotrienol as an indicator. The results derived from the model system indicated that increasing the PMF amount at 0–15% to CB resulted in an increase in the concentration of the α-tocotrienol significantly ($P < 0.05$). The addition of PMF amount more than 15% did not have any effect on the α-tocotrienol concentration. A linear plot with a high correlation of 0.9967 was obtained with SE of 1.527. The high correlation obtained indicated good accuracy, reflecting a close relationship between experimental and theoretical predicted value.

Keyword: Chocolate, cocoa butter, palm mid-fraction, tocopherol, tocotrienol