

## **Effect of accelerated storage on chemical compositions of mango seed fat and palm oil mid-fraction blends as cocoa butter replacers**

### **ABSTRACT**

In this study, mango seed fat (MSF) and its recommended blends were stored under accelerated condition. During the accelerated storage, the changes of fatty acids, total phenolic, tocopherol, and phytosterol contents, iodine, free fatty acid (FFA), and peroxide values were examined every six days. Results upon storage, palmitic and stearic acids increased from 18.0 to 22.5% and from 33.3 to 36.7%, while oleic and linoleic acids decreased from 40.5 to 34.3% and from 5.4 to 2.1% in blend containing 85 g MSF/100 g fat. The iodine values of MSF and its recommended blends decreased ( $48.2 \pm 1.2$  to  $32.0 \pm 0.8$  g iodine/100 g fat), while the peroxide ( $1.1 \pm 0.2$  milliequivalent O<sub>2</sub>/kg fat) and FFA ( $1.8$ - $3.9 \pm 0.0$  g/100 g of fat) values increased after accelerated storage. The results obtained from this study provide an indication about the storage stability of MSF and its blends as cocoa butter replacers to food industry, in particular chocolate industry.

**Keyword:** Fatty acid; Iodine value; Peroxide value; Tocopherol; Sterol