

Effects of frying condition on physicochemical properties of palm olein-olive oil blends.

ABSTRACT

The main objective of present study was to investigate the effects of frying conditions (i.e. the type of frying oil and frying time) on physicochemical properties of palm olein-olive oil blends (POo: Oo, 75:25 and 50:50 w/w) compared to the pure palm olein (100% w/w). The frying process of French fries was performed in duplicate at 180 ± 5 °C for 5 consecutive days. The physicochemical properties of the frying media namely the fatty acids composition (FAC), iodine value (IV), free fatty acid (FFA) and color were considered as response variables. The present study clearly indicated that the frying performance of palm olein significantly ($p < 0.05$) improved by the blending of palm olein (Po) with the olive olein (Oo). As shown in the results, there was a significant ($p < 0.05$) positive correlation between FFA and color. The present work suggested that partial replacement of palm olein with olive oil provided the oil blends (POo: Oo, 75:25 and 50:50 w/w) with more desirable functional properties for the human health due to the high proportion of monounsaturated to saturated/polyunsaturated fatty acids.

Keyword: Palm olein oil; Olive oil; Frying condition; Oil blending; Oleic acid; Oxidation.