

## Physicochemical and sensory characteristics of palm olein and peanut oil blends.

### ABSTRACT

Blending is the simplest method used to modify oils and fats for improved functionality. Blends of palm olein (PO) (90, 80, 70 and 60% v/v) with peanut oil (PnO) (10, 20, 30 and 40% v/v) were made and changes in their physicochemical and sensory characteristics were determined. Changes in physicochemical characteristics, fatty acid composition (FA), triacylglycerol (TAG) profile, thermal behavior and sensory quality were determined. Results showed that with increasing amounts of PnO (from 10 to 20, 30 and 40%) coupled with decreasing amounts of PO (from 90, 80, 70 and 60%) in the blends, the degree of unsaturation increased and a pleasant nutty flavor was imparted in the blends. The FFA content increased from 0.36% (90 PO:10 PnO) to 0.90% (60 PO:40 PnO). Blending altered the FA composition with major changes occurring in the percentages of palmitic and linoleic acids. These changes in FA composition caused a significant change in trilinolein (LLL), dioleoyl-linoleoyl-glycerol (OOL) dipalmitoyl-3-linoleoyl glycerol (PPL) and dipalmitoyl-3-oleoyl glycerol (PPO) in the blends. The melting and crystallization temperatures gradually shifted towards lower temperature from 10.22 to 9.33, 8.26 and 8.25°C and from -4.48 to -4.73, -5.22 and -25.37°C, respectively, with increasing PnO and decreasing PO percentages. Sensory evaluation of banana chips fried with the oil blends showed a high acceptability for all the blends by the panelists, which was indicated by the high scores for all the sensory attributes tested and the overall acceptability.

**Keyword:** Blending; Physicochemical and sensory characteristics; Palm olein; Peanut oil.