

## **Physicochemical characteristics of palm oil and sunflower oil blends fractionated at different temperatures**

### **Abstract**

This research was carried out to determine the effect of fractionation temperature on the physicochemical characteristics of refined, bleached and deodorized (RBD) palm oil and sunflower oil blends fractionated at different temperatures. Blends of 20% and 40% sunflower oil with 80% and 60% RBD palm oil, respectively, were fractionated at three different temperatures (15, 18 and 21 °C). The results showed that olein with higher iodine value was obtained at lower fractionation temperature. This was because, at lower fractionation temperature, more of the polyunsaturated fatty acid, namely linoleic acid (C18:2), went into the liquid fraction. On the other hand, more of the saturated fatty acid, namely palmitic acid (C16:0), went into the liquid fraction at higher fractionation temperature. Blending reduced the triacylglycerol composition, namely POP, POS, SOO and PLP, while OLO, PLL, OLL and LLL/LLnO increased. Lower fractionation temperature decreased the composition of monosaturated triacylglycerol and increased the composition of di- and polyunsaturated triacylglycerols. Lower fractionation temperature produced a liquid fraction with lower solid fat content and lower cloud point than did higher fractionation temperature.