

Frying Performances of Palm Olein and Sunflower Oil Blend in Comparison with Pure Palm Olein During Continuous Frying of Potato Chips

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A blend of palm olein (POo) with sunflower oil (SFO) in a ratio of 65:35 was subjected to continuous frying of potato chips using a 200 L continuous frying pilot plant in comparison with pure palm olein. The potato chips were fried continuously at $180\pm 2^{\circ}\text{C}$ for 2 to 3 minutes in 8 hour batches. Frying activities were conducted for 48 hours for each oil. The production rate was maintained at 50 kg/hr of fried potato chips. Blending POo with SFO improved the oxidative stability of the original SFO from 2.9 to 10.5 hours and lowered the saturation level to only 32.8% as compared to the original POo of 45.6%. The blend showed satisfactory frying performance over 48 hours of continuous frying. This was reflected in the amount of free fatty acids (FFA) of about 0.14%, polar compounds of 9.8%, polymer compounds of 1.3% and a smoke point of 200°C at the end of frying. In comparison, pure POo recorded 0.22% of FFA, 9.8% of polar compounds, 2.9% of polymer compounds and a smoke point of 192°C after successful frying. It was observed that the frying performance of the blend and the pure POo was comparable. Hence, it is possible to utilise a blend of POo with SFO, with the objective to provide lower saturation level and maintaining high oil stability.