

Effect of Deep Fat Frying of Nile Tilapia (*Oreochromis niloticus*) in Coconut and Palm Oils

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W.A. G. E. Wijelath¹, D. W. M. M. M. Kumari^{1(*)}, G. A. Madushani¹, R. M. I. S. K. Senavirathna²

¹Department of Animal and Food Sciences, Faculty of Agriculture, Rajarata University of Sri Lanka, Anuradhapura, Sri Lanka, ²Department of Biochemistry, Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka, Anuradhapura, Sri Lanka

(*)Email: meemali231@gmail.com

Nile Tilapia is the most frequently consumed inland food fish in Sri Lanka. Deep fat frying is the process of immersing food in hot oil and is the most common cooking technique used to prepare Nile Tilapia. The present study was aimed to assess the proximate composition (moisture, ash and fat) and quality in terms of free fatty acids (FFA) and peroxide value (PV) in Nile Tilapia deep fat fried in two different frying media (coconut and palm oils). This experiment was arranged in completely randomized design in three treatments (fish fillets deep fat fried in coconut and palm oils compared to the raw/untreated form) with four replicates. Fish fillets weighing 50 g each and 7.5 cm × 2 cm × 1.5 cm in size were obtained from the muscle portion. These were deep fat fried at 180 ± 2 °C for 4 minutes. Moisture and crude fat contents were significantly different between the raw (80.03% and 1.69% respectively) and deep fat fried fillets in palm oil (44.08% and 17.25% respectively) and coconut oil (49.05% and 13.51% respectively) (p<0.05). Ash content of deep fat fried fillets in coconut oil (1.58%) and palm oil (1.69%) was significantly higher than that of raw fish (1.09%). The results highlighted that the absorption of oil during the process was significantly lower in coconut oil than palm oil. However, FFA and PV were not affected by the oil type but fatty acid profile varied with the oil type. Further studies are needed to compare the secondary oxidation products.

Keywords: Free fatty acids, proximate composition, peroxide value, oil type, secondary oxidation