

Characterization and nutritional content of Terminalia catappa kernel and its oil from Sabah, Malaysia

ABSTRACT

This study was aimed to evaluate the nutritional quality of Terminalia catappa kernel oil (TCKO) and its characterization as well as total phenolic content cultivated in two different locations in Sabah, Malaysia. TCK contained 6.87 to 6.92% moisture, 4.54 to 4.77% ash, 21.98 to 22.44% protein, 5.13 to 5.36% total fibre, 6.88 to 7.01% carbohydrate, and 49.45 to 54.47% oil. The iodine value (IV), free fatty acid (FFA), peroxide value (PV), refractive index (RI), and total phenolic content (TPC) were found to be comparable to that of edible oils. The FFA, IV, PV, color, and TPC values showed significant differences. These results also revealed that the oil from Kota Kinabalu TCK contain more unsaturated fatty acids and display lower oxidative stability as compared to oil extracted from Keningau TCK. From the nutritional point of view, TCK oil had interesting fatty acid composition, displaying the lowest atherogenicity and thrombogenicity indices, highest polyunsaturated/saturated fatty acids and hypocholesterolemic/hypocholesterolemic ratios, respectively. This is suggested that TCK oil have potential to become a new source of healthy edible oil.