ABSTRACT

This study investigated the quantities and qualities of fish oil extracted from five freshwater fish species, *Lates niloticus, Cyprinus carpio, Clarias gariepinus, Protopterus aethiopicus*, and *Oreochromis niloticus*, with the aim of determining their commercial viability in oil exploitation. Fish oil from the various body parts (head, frame, fillet, tail, and body cavity) in all the five fish species was extracted using the conventional method of cooking, pressing, and centrifugation to determine quantitative yield. The extracted oil was then subjected to a composition test (iodine value), hydrolytic degradation test (acid value), and oxidative stability test (peroxide value and *p*-anisidine value). The general trend in all the species was that the body cavity had the highest yield, except for *P. aethiopicus*, which yielded more oil from the tail. There was a significant difference in the percentage of oil yields between all the sampled body parts as determined by one-way analysis of variance (ANOVA, $p < .05$). The study concluded that three species (*L. niloticus, C. gariepinus*, and *C. carpio*) have the potential for oil exploitation if the body cavity is utilized, while one species, *P. aethiopicus*, can yield commercially viable oil from both the body cavity and tail.

KEYWORDS:

Fish oil extraction

oil yield

quantity

quality

freshwater species

comparative analysis