

Fatty acid composition, extraction, fractionation, and stabilization of bullfrog (*Rana catesbeiana*) oil

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The oil extracted from the fat-storage organ (fat body) of the bullfrog (*Rana catesbeiana*) was characterized for its fatty acid composition. The main fatty acids were palmitic (18.1%), stearic (4.1%), myristic (2.7%), oleic (31.7%), and linoleic (12.9%) acids. Long-chain polyunsaturated fatty acids were also present in significant amounts, i.e., eicosapentaenoic (1.5%) and docosahexaenoic (4.7%), and were probably derived from the fish meal content of the diet. A partially fractionated oil was extracted from the homogenized and frozen fat body with an oleic acid content of 43.2%. The natural alkaloid boldine, added at 0.5 mg/g oil level, improved the oxidative stability by a factor ranging from 1.7 to 2.4, as assessed by the Oil Stability Index method between 90 and 110°C. The stabilization effect of boldine was higher than that of naringenin, morin, and quercetin and for the synthetic antioxidant butylated hydroxytoluene at the same concentration level.