Refined oil production from Patin catfish (Pangasianodon hypophthalmus) by-products

Abstract

In this study, oil was extracted from the liver and visceral fat of Patin (Pangasianodon hypophthalmus) and refined. The yield of oil after refining was 49.98%. The major yield loss (34.20%) happened during the degumming procedure. Fatty acids found in the crude and refined oil were C12:0, C14:0, C14:1, C16:0, C16:1, C18:0, C18:1, C18:2, C18:3, C18:4, C20:0, C20:1, C20:4, C20:5, and C22:6. The dominant saturated, monounsaturated and polyunsaturated fatty acids were C16:0, C18:1 n-9, and C18:2 n-6, respectively. The total amounts of monounsaturated fatty acids did not change significantly during refining procedure ($p>0.05$), whereas the total amount of saturated and polyunsaturated fatty acids changed significantly ($p<0.05$). The n-3 to n-6 ratios of crude, degummed, neutralized, bleached, and deodorized oils were 1.11, 1.06, 1.05, 1.02, and 1.01, respectively.

Keyword: Byproduct; Fish oil refining; Fatty acid composition; n-3 fatty acids