

Comparison of fat composition and chemical properties of fat extracts between fish fillets of selected warm-water and cold-water fish

ABSTRACT

The purpose of this study was to determine and compare fat composition and chemical properties of fish fillets of selected warm-water fish obtained from Straits of Malacca. A cold water fish, namely salmon was used for comparison. Moisture content, crude fat, fatty acids composition and chemical characteristics of fish fillets of Yellowstripe scad, Japanese threadfin bream and salmon were determined. Japanese threadfin bream fillet had highest moisture and crude fat contents, followed by fillets of Yellowstripe scad and salmon. A significantly strong and negative correlation was found between moisture and crude fat contents of these fish fillets. Fillets of Japanese threadfin bream and Yellowstripe scad also had higher total saturated fatty acids than total unsaturated fatty acids. Although salmon fillet had lowest percentage of saturated fatty acids, it had highest monounsaturated fatty acids and polyunsaturated fatty acids (PUFA) compared with the two warm-water fish. Palmitic acid and oleic acid were the major fatty acids in the fish fillets. Chemical properties of the oils extracted from the warm-water fish fillets were varied compared to salmon. The selected warm-water fish fillets offer favorable fatty acids composition and chemical properties, which can potentially be used as good sources of PUFA.

Keyword: Chemical properties; Japanese threadfin bream; Salmon; Saturated fatty acid; Unsaturated fatty acid; Yellowstripe scad