Improving the Nutritional Value of Nile Tilapia Fillet by Dietary Selenium Supplementation

Tamás Molnár1*, Janka Biró2, Krisztián Balogh3, Miklós Mézes3, Csaba Hancz1

1 Kaposvár University, Faculty of Animal Science, Kaposvár, Hungary
2 Research Institute for Fisheries, Aquaculture and Irrigation, Szarvas, Hungary
3 Szent István University, Faculty of Agricultural and Environmental Sciences, Gödöllő, Hungary

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Abstract
Selenium (Se) supplementation in animal feeds for producing feasible foods was successfully experimented with in different meat-producing animals including fish. In the present study, Nile tilapia were fed Se-fortified diets (0.5, 2.0, or 4.0 mg/kg) ad lib for six weeks. In addition to traditional production traits, the antioxidant parameters glutathione (GSH), glutathione peroxidase (GPx), and malondialdehyde (MDA) in the blood, liver, and muscle of the tilapia, Se accumulation in the fillet, and body composition were determined. The highest Se value in the fillet was obtained with the diet containing 2 mg/kg supplementation, where the actual Se content of 2.47 mg/kg Se induced 128 µg/kg Se in the fillet. Selenium incorporation had a cubic relationship with the dietary Se content.