

Turkish Journal of Zoology

Turkish Journal

of

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Accumulation of Cadmium in Muscle, Brain and Bone (Backbone) Tissues of Tilapia nilotica (L.)

Mustafa KALAY, Sahire KARATAŞ
Mersin Üniversitesi, Su Ürünleri Fakültesi, Çiftlikköy, Mersin- TÜRKİYE

Abstract: In this study, cadmium concentrations in the muscle, brain, and bone tissues of Tilapia nilotica exposed to 0.1, 0.5 and 1.0 ppm of cadmium (Cd) for 15, 30 and 60 days were examined. At the end of assigned periods, the concentrations of cadmium in the tissues were measured by Atomic Absorbtion Spectrofotometer (AAS). The concentration of the cadmium in the muscle tissue was not statistically significant in relation to medium concentration and the period. However, cadmium accumulations in the brain and bone (i.e. backbone) tissues increased significantly in accordance with the environmental concentrations and time. Cadmium accumulations in the brain tissue reached 14.35 and 18.57 ppm, which were high level, at the test concentrations of 0.5 and 1.0 ppm in the sixtieth day. The ratios of the total cadmium in the tissues, examined in the study, were analysed 16, 36 and 48 % in the muscle, bone and brain respectively.

Key Words: Tilapia nilotica, cadmium, Cd, muscle, bone, brain, accumulation

Turk. J. Zool., **23**, (1999), 985-992.

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