Agnieszka Ludwikowska*, Ewa Drąg-Kozak, Ewa Łuszczek-Trojnar** ©**
**Department of Poultry and Fur Animals Breeding and Animal Hygiene*
***Department of Ichthyobiology and Fisheries,*
University of Agriculture in Cracow, Poland
e-mail: aga.ludwikowska@onet.eu

BIOCONCENTRATION OF LEAD IN FISH MUSCLES

Heavy metals: Hg, Cd and Pb constitute the particularly dangerous pollution for biocenosisbecause of their bioconcentration.

The aim of this study was to investigate the bioconcentration of the different doses of the dietary lead in muscles of prussian carp (Carrasius auratus gibelio Bloch, 1783). The experiment was conducted on 1-year-old fish from the Research Station of the University of Agriculture in Cracow. The fish were stayed in aquaria conditions, in the same water parameters: temperature, pH and oxygenation. There were 5 groups of fish: 1 control group (K) and 4 experimental groups (Pb1-Pb4). The experimental groups were fed on the granulate containing different doses of lead: 8.07, 13.07, 23.71, 39.61 mg $Pb \cdot kg^{-1}$, respectively . The samples of muscles were collected after 3, 6 and 12 months of the experiment. The fish were measured and weighed before every samples collecting. The samples were mineralized in a mixture of perchloric and nitric acid. The concentrations of Pb was determined in the samples using the AAS method.

The results revealed that dietary lead was accumulated in muscles. It was found that the highest concentration of Pb was 0, 73 mg $Pb \cdot kg^{-1}$ of muscles in group Pb3 after 6 months of exposure. The experiment proved that the concentration of lead in muscles had been decreasing during the time of the experiment. There was no connection between bioconcentration of lead and the fish's length and body weight.

Key words: bioconcentration, lead, fish, muscles
Acknowledgements: Supported by DS3210

Стаття надійшла до редакції 10.03.2010