

Thematical course: The use of aquatic organisms for biological indication of aquatic ecosystems.
Part 1.

The features of chemical composition of fishes bodies

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Abstract

The features of the accumulation chemicals by the fish, including heavy metals for use in foods and as an objects of bioindication of water conditions in the river Kazanka in 5 habitats with different anthropogenic load were researched. The average content of each element in the bodies of fishes (liver and muscle) were compared with the control samples and the reference data to find out the acceptable residual amounts of each element in the fish products.

The excess of the permissible levels of chemical elements in the chemical composition of the fish were registered in comparison with literature data on the content of copper and zinc at station 3 (beachfront locomotive, Kazan) in the liver and muscles 26 and 134%, respectively, of lead in station 1 (village Kadyshevo) by 62% only in the liver. In the muscles observed the excess of lead in fish at station 1 by 12% compared to the maximum permissible concentration of chemical substances in the fish food. As compared to the control samples on the content of heavy metals was found the significant excess concentrations in fish liver chrome to 1090%, strontium to 900%, strontium muscles to 1516%, lead up to 1144%, iron up to 650%. Between the chemical elements (potassium, calcium, phosphorus, sulfur, zinc, iron, copper, chromium, strontium) in the liver and muscles of fish revealed positive linear correlation with high values squared (more than 0.9). The resulting data of the work, allows to register the introduction of chemical elements from the outside and their impact on the biodiversity of the river Kazanka.