Bioaccumulation of calcium, magnesium, sodium and potassium in muscle tissue of rainbow trout (*Oncorhynchus mykiss* Walbaum) depending on breeding technology and water quality

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Fish production including trout breeding demands specific knowledge of production conditions and chemical and biological factors present in environment. Both profitability and production system environmental impact should be considered during selection of optimal water management technology for trout breeding. During intensive breeding trout are kept in considerably high populations, which causes fodder remains and digestion byproducts to leakage to water. High fish population leads to increase of such pollutants concentration in water and its high oxygen deficit. In countries where water supplies are limited, water saving is recommended. This forced perfecting of purification methods for fishery postproduction waters.

Research on bioaccumulation of chosen minerals in muscle tissue of rainbow trout (*Oncorhynchus mykiss* Walbaum) were done in 2010 and 2011. Two trout farms from Pomerania Province were selected which differ in water management technology. In the first farm flow-through system (OOH) was used, and the second applied Recirculation Aquaculture System (RAS).

It was stated that waters used in both breeding facilities met demands for freshwater suitable for salmonids breeding. Research confirmed that breeding technology influences bioaccumulation of calcium and sodium in muscle tissue of rainbow trout but has no impact on bioaccumulation of magnesium and potassium.

**Key words**: rainbow trout, breeding technology, water physical and chemical properties, bioaccumulation, calcium, magnesium, sodium, potassium.