

ACCUMULATION AND TRANSFER OF ZINC AND COPPER IN A FOOD CHAIN FROM SEA WATER TO A TERRESTRIAL ANIMAL

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ABSTRACT

Bioaccumulation and transfer of copper and zinc from the primary producers to the higher trophic levels have been studied using molluscs exposed to short term contamination. The bivalves *Meretrix meretrix*, were fed phytoplankton enriched with zinc and copper. Next these bivalves were eaten by carnivorous gastropods *Chicoreus virgineus*. At the tertiary consumer level, four mice were fed with contaminated *C. virgineus* for 21 days. The activity of the animals was monitored. The transfer of copper and zinc showed decreasing trend towards higher trophic levels. The retention time was 4 times higher with metals absorbed from food than from water. Mice fed *C. virgineus* for 21 days did not accumulate zinc, but copper was found in kidney, brain, liver, heart, muscles and skin. The liver seemed to have absorbed copper more than other organs. Loss of weight and activity were observed in mice.