DETERMINATION OF HEAVY METALS IN SOME ECONOMICALLY IMPORTANT MARINE ORGANISMS IN SOUTH-EASTERN BLACK SEA

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This study carried out by the aim of find of heavy metals levels in some organisms that used as food, survive in the Black Sea, their danger belonging to the conclusions human health point of view and find out the pollution level in Middle and Eastern Black Sea.

The project was conducted by Middle East Technical University, Erdemli Marine Sciences Institute with the financial support of the State Planning Office and Turkish Scientific and Technical Research Council and in collaboration with Ministry of Agriculture and Rural Affairs, Trabzon Fisheries Research Institute in 1991.

During the project, the levels of mercury, copper and lead and their changes in time and space were studied in two pelagic fish species, anchovy (Engraulis encrasicolus) and horse mackerel (Trachurus species) and also in a demersal species, European hake (Merlangius merlangus euxinus) which were caught in significant amounts in South-eastern Black Sea, so all having economic importance. Furthermore, the mussel (Mytilus galloprovencialis) and mixed plankton (phyto-zooplankton) collected from polluted and unpolluted areas were also analysed for the same metals, since they were accepted to be good indicators of pollution.

From the results obtained, the mercury concentrations in analysed organisms were found to be high in June and in October while copper concentrations were low in these months. When the distribution of metal concentrations was studied within the sampling areas, the copper concentrations appeared to be high in Samsun and Hopa regions and the they increased from western to eastern part of the South-eastern Black Sea. However, lead concentrations were high in the western part, especially in Sinop region and they decreased towards east. With some exceptions, the mercury concentrations were evenly distributed throughout the sampling areas.

When the average values compered with acceptable upper limits on marine products, measured copper, mercury and lead values of the studied organisms find out under the international limits.