

[P-39]

A STUDY ON CADMIUM ACCUMULATION AND HISTOPATHOLOGICAL CHANGES IN THE GILLS OF CRUCIAN CARP (*CARASSIUS AURATUS*)

Heekyung Bae, Eunkyung Kim, Seong-Sook Nam, Eung-Roh Park, Jisung Ryu, Chulwoo Lee, Kwangsik Park

Risk Research Dept, National Institute of Environmental Research

Histopathological changes and cadmium accumulations in the gills were investigated in crucian carp (*Carassius auratus*) exposed to 0, 0.01, 0.1, 0.5 mg/l cadmium (Cd) concentrations for 25 days. After 25 days of exposure, cadmium accumulations increased in each of the different exposure concentrations. Histopathological changes in the gills of crucian carp exposed to cadmium included the acidification of mucous cell, the terminal clubbing of lamellae, the hyperplasia of epithelial cell and the curved of secondary lamellae. The similar histopathological changes were observed once the accumulations of cadmium reached the similar levels found in the present study with the different exposure schemes. Also the acidification of mucous cell in gills appeared when cadmium accumulations reached 5 $\mu\text{g/g}$ and more. These results suggested that histopathological changes in the gills, an appearance of mucous cell acidification, be used to estimate the relation between toxic effect and cadmium accumulations in the gills.

keyword : cadmium, crucian carp, gill histology