

HISTOPATHOLOGICAL CHANGES OF SKIN AND GILLS OF CATFISH (*CLARIAS GARIEPINUS*) EXPOSED TO ORGANOPHOSPHATE TOXICANT

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Abstract

The usage of pesticide in the industry will help increase crop yield and meet consumer demand for Malaysia, a country that is undergoing economic revolution through the agricultural. However, the excessive and inappropriateness use of pesticides can affect the environment, water quality and public health. In this experiment, 40 adult African catfish (*Clarias gariepinus*) were divided and exposed into sublethal concentrations of Malathion (0.8, 1.6 and 3.0 ppm) and a control group for 48 hours. At the end of the study, all fish were sacrificed before skin and gill samples were collected to determine the effect of malathion on the gills and skin. The histopathological lesions in the gills and skin were scored and statistically analysed to compare between group. Histological examination of the gill showed epithelial lifting at secondary lamella, hyperplasia of primary epithelium, fusion of secondary lamella and infiltration of inflammatory cells with peeling and rupture of epithelial cells of secondary lamellae. In the skin, the changes observed were hyperplasia of mucus cell and shrinkage of the club cells after the exposure to malathion. There were significant differences between treatment and control groups. Thus, malathion causes concentration-independent and nonspecific lesions in the gills and skin of African catfish.

Keyword: pesticide, Malathion, histopathology, gill, skin, catfish