HISTOLOGICAL CHANGES IN THE TISSUES OF *OREOCHROMIS MOSSAMBICUS* AND *LABEO ROHITA* ON EXPOSURE TO IMIDACLOPRID AND CURZATE

BHAVIKA PATEL, ANKUR UPADHYAY & PRAGNA PARIKH

Department of Zoology, Faculty of Science, The Maharaja Sayajirao University of Baroda, Vadodara, Gujarat, India

ABSTRACT

An attempt is made to evaluate the effect of Imidacloprid (IMI) and Curzate (CZ) on the histopathological alterations in gills and kidney of *O. Mossambicus* and *L. Rohita.* Histological observations envisaged the deleterious anatomical and morphological alterations induced in gill and kidney by sub-lethal toxicity of the IMI and CZ agrochemicals. Each tissue showed specific sterical changes and revealed the incapability of these tissues to withstand the toxic effects induced by IMI and CZ. Histological damages in the tissues were found to intensify with increase in concentration and duration. The histopathological changes observed in the kidney were severe necrosis of tubular epithelial cells, thickening of the Bowman's capsule and shrinkage of the glomeruli along with severe degenerative and necrotic changes in the renal tubules with focal areas of necrosis and hemorrhage, haemolysis. Vacuolar degenerations in the epithelium of renal tubules. The histological changes are more prevalent and more pronounced in the gills of both the fish were curling of secondary lamellae followed by disorganization, rupture in the secondary lamellae. Haemorrhage at primary lamellae and bulging at the tip of primary filament were also noticed. As a conclusion, the findings of the present histological investigations demonstrate that the exposure of adult fresh water teleost fish, *O. Mossambicus* and *L. Rohita* caused moderate to severe damaging to gills and kidney.

KEYWORDS: IMI, CZ, *O. Mossambicus, L. Rohita*, Kidney & Gills