

Toxic Effects of Trebon[®], a synthetic Pyrethroid on the Fingerlings of Tilapia *Oreochromis mossambicus* (Peters, 1852)

Premaratna, K.D.S. and Chandrasekera, W.U.*

Department of Zoology, Faculty of Science, University of Kelaniya, 11600, Kelaniya, Sri Lanka

*Corresponding author (email: upali@kln.ac.lk)

Trebon[®] (Generic name: Etofenprox) is a recently developed potential pyrethroid insecticide, and reported to bring about adverse effects to non-targeted organisms in agricultural fields and associated habitats. In the present investigation, toxic effects of Trebon[®] on the fingerlings of tilapia (*Oreochromis mossambicus*) were studied under laboratory conditions following standard experimentation and analytical techniques. Results revealed that the 24-hr and 96-hr LC₅₀ of Trebon[®] were in low concentration i.e. 0.0657 ml·L⁻¹ and 0.0087 ml·L⁻¹ respectively, which is well below its recommended field concentration of 1.5 ml·L⁻¹. As such Trebon[®] causes tilapia fingerlings mortality at 23 times and 172 times milder concentrations than the recommended field concentrations at 24-hr and 96-hr exposure periods. Gill hyperplasia, deformation and telangiectasis of secondary gill lamella, mucosal cell proliferation, lamella disorganization and fusion were observed in the test fishes. The liver tissues were also damaged with intracellular vacuolation, aggregation of melanomacrophages, blood congestion, and focal necrosis. The severity of these damages increased with the level of dosage and exposure period. The fingerlings suffered respiratory distress while the body colouration gradually changed into a pale hue upon exposure to Trebon[®].

Keywords: Etofenprox; *Oreochromis mossambicus*; Insecticide; LC₅₀