

P37. DETERMINATION OF HISTOPATHOLOGICAL EFFECTS OF SUBLETHAL IMIDACLOPRID ON NILE TILAPIA (*Oreochromis niloticus*)

Aysel Çağlan KARASU BENLİ, Belda ERKMEN, Zuhâl YILDIRIM, Ramazan MERT, Figen ERKOÇ

Gazi University, Institute of Natural and Applied Sciences, Department of Environmental Sciences, Teknikokullar, Ankara, 06500, Turkey

Department of Biology, Faculty of Science and Letters, Aksaray University, Aksaray, 68100, Turkey

3Etimesgut Public Health Laboratory, Ankara, 06770, Turkey

Department of Biology, Faculty of Art and Science, Nevşehir Hacı Bektaş Veli University, Nevşehir, 50300, Turkey

Department of Biology Education, Gazi University, Teknikokullar, Ankara, 06500, Turkey

Imidacloprid (1[(6-chloro-3-pyridinyl) methyl]-N-nitro-2-imidazolidinimine, chloronicotyl (CAS No: 105827-78-9)), neonicotinoid insecticide, is an extensively used insecticide for crop protection in the world wide from the last decade due to its low soil persistence and high insecticidal activity at low application rate. The acute and sublethal effects of imidacloprid on non-target organisms are not well known on aquatic life. The aim of the present study is to determine the histopathological effects of sublethal imidacloprid on the standard non-target test organism, Tilapia (*Oreochromis niloticus*). Experiments were conducted at two concentrations (50 and 100 mg/L imidacloprid) with two control groups (control and control with acetone). 60 L glass aquaria were used with aeration. The mean weight and length of tilapia were 34.07 ± 1.49 g and 12.85 ± 0.18 cm, respectively. After exposure to 24 and 96 h to sublethal imidacloprid concentrations, the fish were sacrificed under ice anesthesia and fixed with buffered 10% formalin. Routine histological procedures were processed and tissue sections were stained with H&E. Following exposure to sublethal imidacloprid caused some lesions on gill and liver tissues. There is no significant histopathological findings were observed on the other tissues when compared to control groups. Gill tissues showed hyperemia, epithelial lifting, fusion of secondary lamellae and telangiectasia, whereas hyperemia and hydropic degeneration were observed in the liver tissues.

Imidacloprid was affected on cellular level even in sublethal concentrations.

* ackbenli@gmail.com