



Gorgan University of Agricultural  
Sciences and Natural Resources

*J. of Utilization and Cultivation of Aquatics*, Vol. 7(1), 2018

<http://japu.gau.ac.ir>

DOI: 10.22069/japu.2018.13495.1389

## **Effect of pesticide Glyphosate on histological lesions of kidney in common carp (*Cyprinus carpio*)**

**\*A.R. Kashiri<sup>1</sup>, H. Gholipour<sup>2</sup>, R. Patimar<sup>3</sup> and M. Mazandarani<sup>4</sup>**

<sup>1</sup>M.Sc. Graduated of Fisheries, Gonbad-Kavous University, Gonbad-Kavous, Iran, <sup>2</sup>Assistant Prof., of Fisheries, Gonbad-Kavous University, Gonbad-Kavous, Iran, <sup>3</sup>Associate Prof., of Fisheries, Gonbad-Kavous University, Gonbad-Kavous, Iran, <sup>4</sup>Assistant Prof., of Aquaculture, Gorgan University of Agricultural Sciences and Natural Resources, Gorgan, Iran

Received: 06/17/2017; Accepted: 07/16/2017

### **Abstract**

Glyphosate is one of the most used pesticides in the agriculture. This study was aimed to evaluate the effect of pesticide glyphosate on histopathology of kidney in common carp (*Cyprinus carpio*). To the end, glyphosate treatments were 0, 6, 7, and 8 mg of each treatment with three replications. 150 pieces of fish with an average weight of  $30 \pm 5$  were randomly divided into 12 of the 80 liter tank with 40 liters. At the end of the 70 days growing period for study of histopathological lesions of kidney, anesthetic of clove powder samples of kidney were performed. Histopathologic examination results showed that significant changes in kidney were performed. Renal tubular necrosis begins to accumulate congestion; destruction and necrosis of tubular epithelial cells hemorrhage and congestion were observed in the urinary tract. In general, result confirmed that chronic concentrations of glyphosate had more physiologic effects like histopathological lesions on common carp like renal tubular necrosis, bleeding and renal tubular necrosis and urethral hypertension; these changes can be used as bio-indicator of glyphosate effects of this fish.

**Keywords:** Aquatics, Common Carp, Histopathology, Pesticide, Pollution