J Aquac Res Development 2018, Volume 9
DOI: 10.4172/2155-9546-C3-030

Effect of dichlorvos on biochemical parameters of *Clarias gariepinus* juveniles

Nwamba Helen Ogochukwu
Enugu State University of Science and Technology, Nigeria

The study was conducted to determine the effects of dichlorvos on total protein, alanine transaminase activity and aspartate transaminase activity of juveniles of *Clarias gariepinus*. Dichlorvos is an organophosphate used to control pest by inhibiting cholinesterase enzyme. The experimental design were a completely randomized block design involving four treatments replicated thrice and each replicate contained 10 fish, one of the treatment served as control while 18, 20, and 22 mg/L concentrations of dichlorvos were used in the other treatments respectively. A total of 30 fishes were exposed to each concentration, mortality increased with increased concentration and exposure time. No death was recorded in the control, the lowest mortalities percentage of 10% at lowest concentration 18 mg/L and highest mortalities of 60% at the highest concentration 22 mg/L of dichlorvos. The 96 h LC50 with 95% confidence limit according to probit analysis were 17.21, 17.98, 17.21 and 17.21 mg/L of the toxicant for 24h, 48h, 72h, and 96 h respectively. Behavioural changes such as hyper activity, erratic swimming, air gulping, skin discoloration and jerky movement were observed in the exposed fish. There were no significant ($p>0.05$) differences in the physico-chemical parameters (temperature, pH, dissolved oxygen) observed. There were significant ($p<0.05$) decrease in the total protein content and a significant ($p<0.05$) increase in the alanine aminotransferase (ALT), aspartate aminotransferase (AST) activities of *C. gariepinus* exposed to sub lethal concentrations of dichlorvos. The organophosphate dichlorvos is toxic to *Clarias gariepinus*. Hence the usage of dichlorvos should be controlled.

nwambahelen@yahoo.com