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## Acute toxicity and hematological responses of 2-2-dichlorovinyl dimethyl phosphate (dichlorvos) on fingerlings of *Clarias gariepinus*

Adeboyejo Akintade, Lawal T and Adaramoye O R  
Lagos State University, Nigeria

The study investigated lethal toxicity effects of Dichlorvos on *Clarias gariepinus* fingerlings (Mean weight  $8.02 \pm 2.56$ g and length  $10.15 \pm 1.02$ cm) in a static renewable bioassay during 96 hours exposure period. Treatment were in triplicates with concentrations 0.0, 1.0, 2.0, 3.0, 4.0 and  $5.0 \mu\text{g/l}$ . Data on fish mortality and physico-chemical water parameters (Dissolved oxygen, Carbondioxide, pH and Temperature) were taken and subsequently subjected to one way analysis of variance (ANOVA) at  $P < 0.05$ . Duncan Multiple Range Test (DMART) was used to separate differences between means. The mean lethal concentration ( $LC_{50}$ ) was determined by Probit analysis. The water quality parameters of the control showed mean Temp.  $29.0 \pm 0.1^\circ\text{C}$ ; pH  $7.27 \pm 0.3$ ;  $\text{CO}_2$   $0.41 \pm 0.1 \text{mg/L}$ ; and DO  $5.83 \pm 0.4 \text{mg/L}$ . However, the treatment showed significant variations from the control (at  $P < 0.05$ ) except for temperature. Behavioral responses of the fish included frequent surfacing, erratic swimming, mucus secretion, bleeding, skin bleaching, coloration of the abdomen and shivering. 96- Hours  $LC_{50}$  value was  $1.51 \mu\text{g/L}$ . The derived hematological indices of White Blood Cell, Lymphocytes, Red Blood Cell, Hemoglobin

(HB), Packed Cell Volume, Neutrophil, Mean Corpuscular Hemoglobin Concentration etc; varied significantly from the control at  $P < 0.05$ . The changes observed indicated that hematological parameters can be used as bio- indicators to illicit stress responses in fish after exposure to different concentrations of DDVP.



### Biography

Adeboyejo Akintade has completed his PhD at the age of 45 years old from the Federal University of Technology, Akure, Ondo state, Nigeria and has been a lecturer in Lagos State University, Lagos, Nigeria since 1998. He is currently a senior lecturer and specializes in Fish biology & ecotoxicology. He has published more than 28 papers in reputed journals and has been serving as course coordinator of entrepreneurial studies within the University. He is member of Fisheries societies home and abroad.

adeboyejoakintade@yahoo.co.uk

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