ALDRIN INDUCED IMPACTS ON THE BLOOD PROFILE OF MURREL Channa Gachua

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ARTICLE INFO

Article history
Received 27/03/2014
Available online
07/05/2014

Keywords
Aldrin, Blood Profile,
Channa Gachua,
Packed Cell Volume.

ABSTRACT

The effects of sub-lethal dose concentrations of aldrin were studied on blood profile of Channa gachua. For this purpose C. gachua having same weight and length were used. The RBC and Packed Cell Volume (PCV) were found to decrease considerably as compared to normal values.


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INTRODUCTION
The pesticides are organic or inorganic chemicals and are discharged constantly through agricultural, horticultural and municipal effluents into the environment in large amounts. By the way of water canals, streams and rivers these pesticides reach to the different water bodies affecting the ecology and aquatic life diversity of these water bodies adversely. The literature study on pesticide toxicity clearly shows that pesticides affect various hematological, biochemical and reproductive functions or characters in aquatic organisms [1-3]. The present study was undertaken to evaluate the impact of aldrin on blood profile of Channa gachua.

MATERIAL AND METHODS
Live and biologically fit specimens of Channa gachua were collected from the Upper Lake of Bhopal. They were brought to the laboratory of Department of zoology and applied aquaculture, Barkatullah University, Bhopal (M.P.) bathed in KMnO₄ solution and acclimatized for a period of 15 days in Fiber Tank. The length of fish varied from 24 to 30 cm and weight from 25 to 29 gm. Stock solution of aldrin was prepared by dissolving 10 mg in 0.2 ml of acetone and 100 ml distilled water. Further dilutions and desired concentrations were prepared by using dilution techniques given in [4]. Acclimatized fish were exposed in three replicates for 15 days at the sublethal concentrations of 0.0004, 0.00026 and 0.0003 ppm of aldrin. Control was set separately. Blood parameters were analyzed after every sampling and calculated graphically.

RESULTS AND DISCUSSION
The data relating to the effect of aldrin on blood parameters are shown in Graph 1. Significant decrease in RBC and Packed Cell Volume (PCV) was observed in all the concentrations of Aldrin. Significant elevation reduction in haematalogical values of fishes exposed to different environmental toxicants have been reported by other workers. [5] reported decreased RBC and HB% in Channa gachua after 4 days exposure to malathion.

Graph 1. Showing R.B.C content (10⁶mm³) and PCV (%) of Channa gachua exposed to different concentrations of aldrin.

There is significant decrease in HB%, PCV, MCV, MCH after 15 days treatment with divithion [6]. From the present study, it is clear that Aldrin induces alterations in blood parameters of Channa gachua.
REFERENCES