

Organic Pesticides Effect on Freshwater Fish Barbus Ticto

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Abstract: *The term pesticide includes insecticides, herbicides, fungicides, nematocides etc. Among this some organic pesticides are very harmful to aquatic fauna, such as fish, crab and other aquatic organisms. There is no doubt pesticides pollution of water direct effect on human and aquatic animals. The toxic effects of pesticides varies species to species and organisms to organisms. In present study we select the fish B.ticto, is a fresh water fish, and organic pesticides ENDOSULPHAN-35EC.*

Keywords: Organic pesticides (Endosulphan-35EC) and Fish

1. Introduction

The concept of environment and development has been the subject of global concern and the ENVIRONMENTAL CONFERENCE held at Rio during 1992 has endorsed the concern for increasing industrialization and greater dependence of man on chemical products through the world leading to disastrous effects of the same on human and non human environment.

A number of researcher prove that the effect of pesticides on the fish shows that the acute in physiological changes, such as gills, liver, kidney, blood and ovary. (Ram Narayan Sing et al., 2014., Mohammad Hussain et al., 2015., Shivkumar et.al. 2015.) Pesticides are toxic chemicals used for pest controlled in agriculture, water, food storage, protection of wood and disease causing vectors to human being. Once pesticides enter into water, they either degrade to simpler compounds, as remain there as in original form, as move back into the atmosphere by volatilization pesticides exits in a variety of chemical and biological forms including organochlorine or organophosphate.

2. Material and Methods

The fresh water fish *Barbus ticto* (Hamilton -Buchanan), belongs to the family -cyprinidae, locally available fresh water dam, river.

The fishes were collected from Daulatabad Talaw 15 km North-west of Aurangabad city. They were stored in tap water in lab. For 24 hr, acclimatation, for more than 3 days and used for toxicity testing.

The stock solution of endosulphan was used in the toxicity testing with appropriate dilutions using stored tap water. The acclimated fish were randomly distributed in each of the test tank (10 fish/tank) including controlled tank. Feeding and aeration was discontinued during the course of the tests. Fish were selected as same size and same weight for experiment. Each tests was carried out for 24, 48, 72, and 96hr, during this periods behavior of the fish was carefully observed. Mortality was recorded at an

interval of 24 hr. The experiment was reported three times and the mortality was noted in each concentrations. The resulting mortality was noted in each concentration for the durations of 24, 48, 72 and 96 hr.

3. Observation and Results

The calculated lethal concentrations for 50% mortality (LC50) of endosulphan for 24, 48, 72 and 96 hr to fish *B.ticto*.

The fish *B.ticto* survived well from 0.01 ppm to 0.15 ppm for 24hr., 0.07 ppm to 0.13 ppm for 48 hr., 0.04 ppm to 0.09 ppm for 72 hr., and 0.02 ppm to 0.06 ppm for 96 hr of endosulphan when 50% mortality.

The LC50 VALUE OF ENDOSULPHAN FOR 24 HR WAS 0.13 PPM, FOR 48 HR WAS 0.11 PPM, FOR 72 HR WAS 0.08 PPM AND FOR 96 HR WAS 0.055 PPM RESPECTIVELY. (Fig-1).

4. Conclusion

This study concludes that the concentration of endosulphan is more toxic to fish other than aquatic organism. It was found that as the concentration of pesticides increased in the media the percent survival of fish *B.ticto* decreased.

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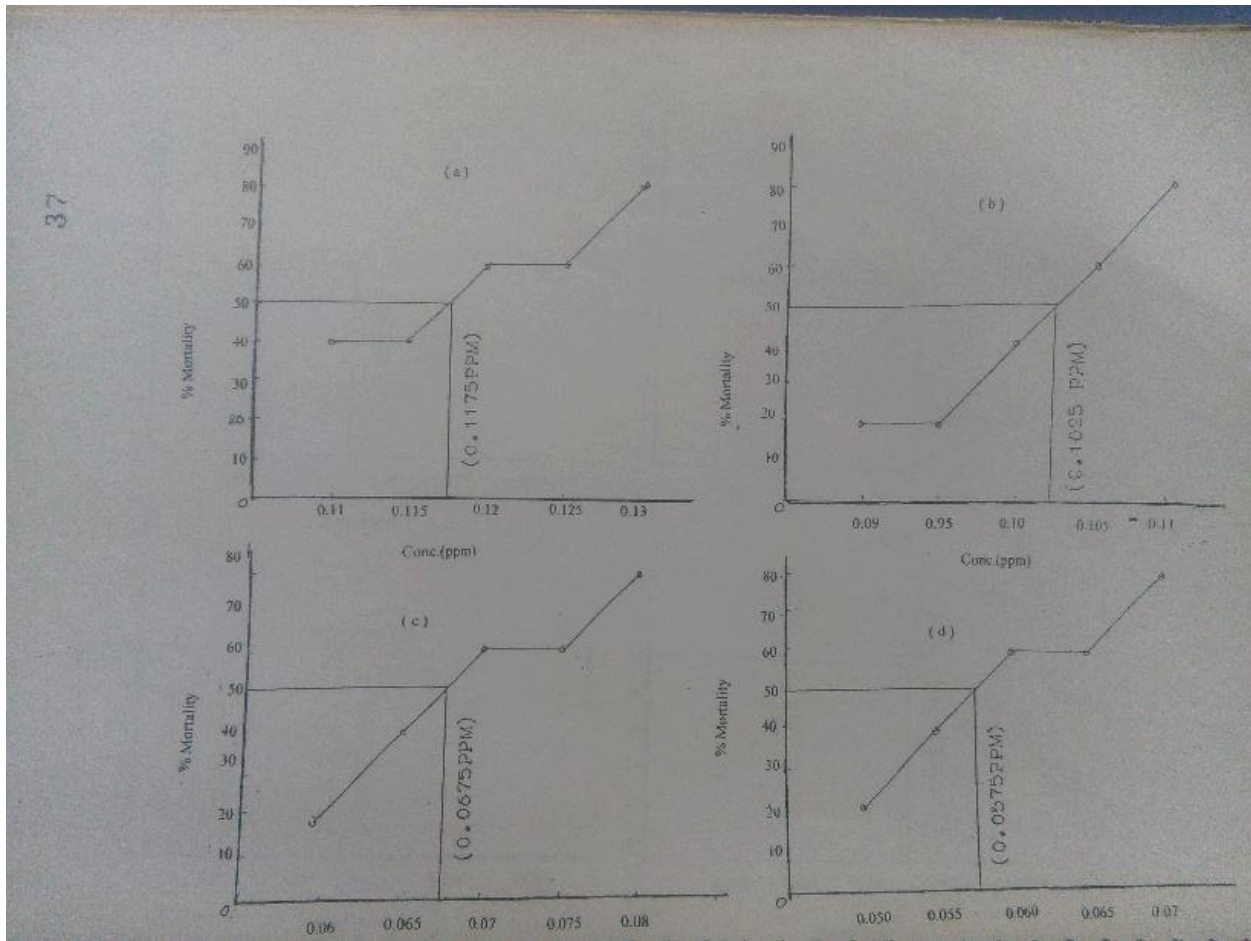


Figure 1: Toxicity evaluation of endosulphan