

Organophosphate Pesticides (Thimet-10g), Effect on Freshwater Crab, *Barytelphusa Cunicularis* (Westwood)

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Abstract: Pesticides is a general term used for a broad spectrum of compounds which includes insecticides, herbicides, fungicides, nematocides Ware,(1975).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. Durkin.P R.(2008).The toxic effects of pesticides varies species to species and organisms to organisms. This study is thought necessary to find out some of the neglected aspects of pesticides toxicity to these economically important species. Therefore Crab *B. Cunicularis* is select. It is a fresh water crab, and organic pesticides THIMET-10G.

Keywords: Organic pesticides (THIMET-10G) and Crab

1. Introduction

Pesticides in the aquatic environment causes both direct and indirect hazards to man as well as to aquatic organism. Holden, (1973).The concept of environment and development has been the subject of global concern and the ENVIRONMENTAL CONFERENCE held in 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. 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 variety of chemical and biological forms including organochlorine or organophosphate.

2. Material and Methods

The fresh water crab *Barytelphusa cunicularis* (westwood), belongs to the phylum Arthropoda, class crustacea, locally available in fresh water dam, river.

The crabs 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 crab 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. Crab was selected as same size and same weight for experiment. Each test was carried out for 24, 48, 72, and 96hr, during this period's behaviour of the crab was carefully observed. Mortality was recorded at an interval of 24 hr. The experiments were reported three times and the mortality was noted in each concentrations. The resulting mortality was noted in each concentrations for the durations of 24,48,72 and 96 hr.

3. Observation and Results

The calculated lethal concentrations for 50% mortality (LC50) of THIMET-10G for 24,48,72 and 96 hr to crab, *B.cunicularis*.

The crab, *B.cunicularis* survived well from 2.20 ppm to 2.60 ppm for 24hr., 2.30 ppm to 2.50 ppm for 48 hr., 2.35 ppm to 2.40 ppm for 72 hr. and 2.25 ppm to 2.38 ppm for 96 hr of Thimet-10G when 50% mortality.

The LC50 Value of Thimet-10G for 24 hr was 2.45 ppm, for 48 hr was 2.42 ppm, for 72 hr was 2.38 ppm and for 96 hr was 2.35 ppm respectively.(Fig-1).

4. Conclusion

Much of the information now available on the effect of pesticides on the aquatic organism and their environment is in terms of acute and a mortality of individual species. This study concludes that the concentration of Thimet-10G is more toxic to crab other than aquatic organism. It was found that as the concentration of pesticides increased in the media the percent survival of crab, *B.cunicularis* decreased.

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