P: ISSN NO.: 2394-0344 RNI No.UPBIL/2016/67980 VOL-3* ISSUE-8* (Part-1) November- 2018
E: ISSN NO.: 2455-0817 *Remarking An Analisation*

Histochemical Atterations in The Liver of Oreochromic Mossambicus Fingerlings Caused by Herbicide "Pursuit"

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Abstract

The Pollution of aquatic environment by Pesticides adversely affects the survival of aquatic organisms including commercially important fish species. In order to assess the effects of herbicide Pursuit in liver of fish fingerlings of Orcochromis mossambicus the fingerlings were exposed to sublethat concentration (63.7ppm) of pursuit for 15 and 30 days. The histochemical reaction of PAS-Test for carbohydrate in the liver of fingerlings gave different response under controlled and treated condition. Hepatocytes, pancreatic tissue and cytoplasmic inclusions of control liver have good amount of carbohydrate contents. After 15 days exposure of 63.7ppm pursuit toxicity few patches of hepatic cell lost the carbohydrate contents showing moderate to weak positive reaction respectively where as 30 days exposure of 63.7ppm pursuit exhibit heavy reduction of carbohydrate contents in comparison to control liver in which whole liver mast become weak positive to negative reaction towards the PAS test. Liver was seen in slightly improved condition in case of one month recovery treatment in fresh water, Hence it may be concluded that pursuit is highly toxic to fish life and its long term effect is less repairable.

Keywords: Herbicide, Fingerlings, Histochemical, Liver, Recovery, Alteration.

Introduction

Convalescing from the excitement of Green Revolution. India is now batting from Perils of excitement used chemicals. Fertilizers and Pesticides. The Pollution of aquatic environment by pesticides adversely affect the survival of aquatic organisms including commercially important fish species.

Fish fingerlings are very sensitive to their environment and widely used as bioindicaters for the assessment of the degree of pollution. However earlier stages of fishes are more susceptible to toxic ants. The Test herlricide pursuit is widely uses in terrestrial crops of soybean and groundnut to control annual grasses, broad leaf weeds and is applied by spraying on standing crops. Liver plays an important role in detoxification process so toxicant may affect it. Due to its contact with the blood it is directly get affected by pollutants and serves as a suitable inhere to the toxicity of surrounding water . The Present Research work was carried out to exhibit toxic effects of pursuits on the liver of Oreichromis mossambicus fingerlings.

Material and Method

Living Fingerlings of Fresh water tallest O mossambicus were collected from the local fish farm and kept in glass aquaria for acclimatization. After determining the Lc50 (0.51 ml/l) Fingerlings were exposed to 63.7ppm Sub-lethal Concentration of pursuit for 15 and 30 days respectively. After 30 days exposure these fingerings were kept fresh water for one month to observe recon By routing microtome serial sections were prepared 7my for host chemical observations and stained in PAS Test.

Result and Discussion

The Histochemical reaction of Pas test for carbohydrate in the liver of fingerlings under controlled and traded conditions gave different response. Hepatocytes, Pancreatic tissue alls, and cytoplasm inclusions of control liver tissue have rich amount of carbohydrate contents.

Fig.1 Photomicrograph of T.S. of The Live of control Oreochromis Mossambicus Fingerlings Stained with PAS Test

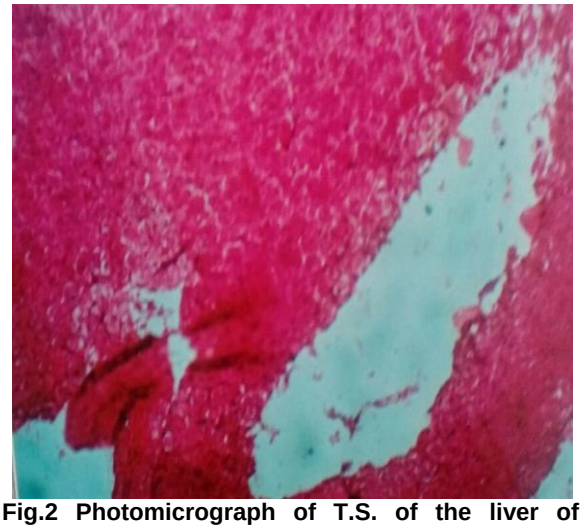
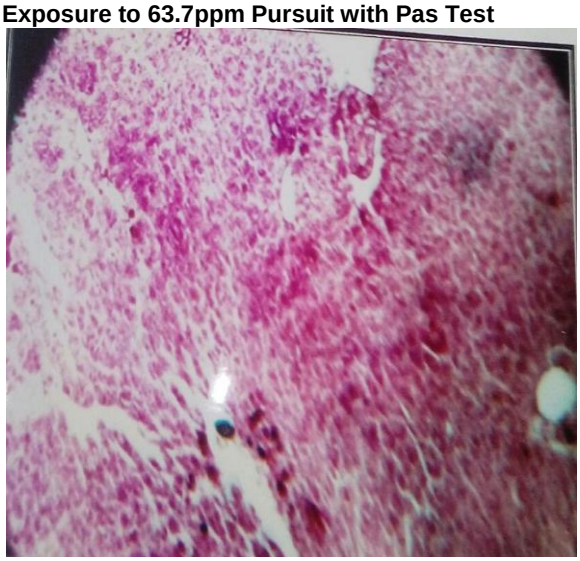


Fig.2 Photomicrograph of T.S. of the liver of Oreochromis Mossambicus after 15 days Exposure to 63.7ppm Pursuit with Pas Test



After 15days exposure of 63.7ppm Pursuit toxicity few patches of pancreatic and hepatic alls dost the carbohydrate contents showing moderate to weak positive reaction respectively. Similar observations were reported by Bashkir (1997). Bhavnagar (2000). Also reported that after Prolong exposure of pesticide. Carbohydrate contents decreased in the liver of C.mrigala fingerlings. With the increased duration carbohydrate decreased gradually. When 63.7ppm pursuit intoxication was continued for 30 days the interhepatic spaces exhibited total absence of carbohydrate contents where as the liver mass become weak positive to negative reaction to wards the PAS-Test.

Fig.3 Photomicrograph of T.S. of the liver of Oreochromis mossambicus after 30 days exposure to 63.7ppm pursuit with PAS Test

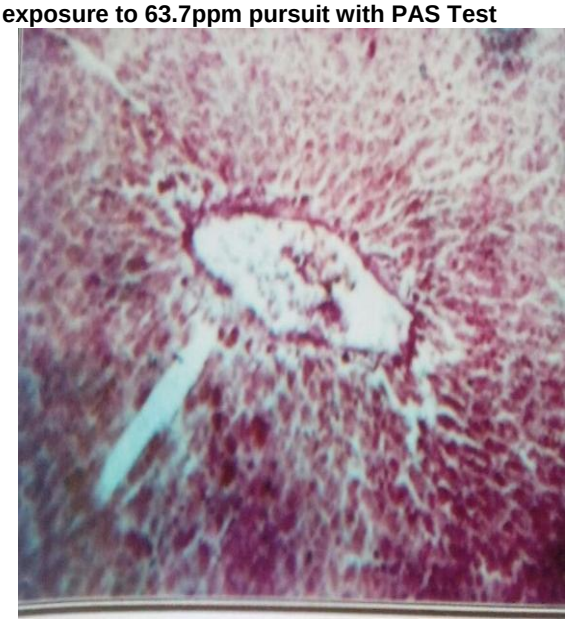
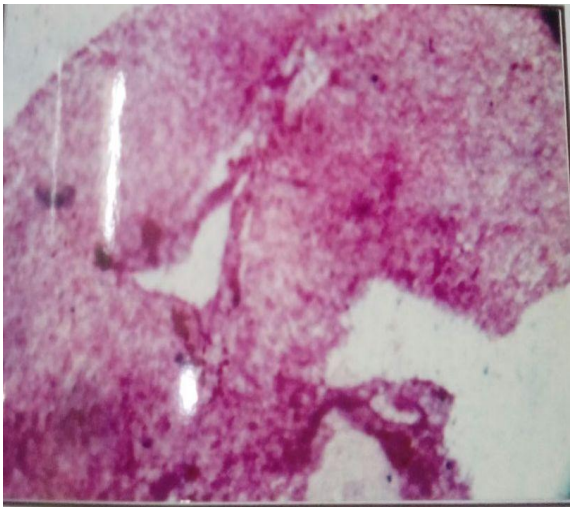


Fig.4 Photomicrograph of T.S. of The Liver Of Oreochromis Mossambicus After One Month Recovery Period Stained With Pas Test



Conclusion

Findings were strongly supported by the finding of Govindan, et.al. (1994); shrivastava, (1995); Jagadeesan,et.at. (1999); Mehrotra, et, al (2004); who also reported decrease in carbohydrate content by pesticidal toxicity.

Liver was seen in slightly improved condition in case of one month recovery treatment in fresh water Singh, et. At.(2004); Jagadeesan and Matheicanan, (1999), also found that liver tissue regained their carbohydrate and protein contents after recovery period. In the Present study it is proved that long. Term intoxication with Pursuit showed. Depletion of carbohydrate store in liver because excessive herfricide intake impairs carbohydrate metabolism.

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