ABSTRACT

Haematological Response of African Catfish (Clarias gariepinus Burchell 1822) Fingerlings Exposed to Different Concentrations of Tobacco (Nicotiana tobaccum) Leaf Dust

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The present study set out to investigate the haematological effects of tobacco leaf dust on African catfish, Clarias gariepinus, fingerlings, with a mean weight of 3.01 ± 1.25 g using "static renewal bioassay system" during a 120-hour bioassay exposure period. Water quality parameters such as pH and dissolved oxygen significantly decreased while total alkalinity and conductivity increased significantly in the exposed media, compared to the control test. Leucocytes counts increased significantly while erythrocytes counts decreased significantly with increasing concentration of tobacco dust. Packed cell volume significantly reduced with increase in the concentration of tobacco dust. Haematological examination showed that there was destruction of the erythrocytes production, and the concentration of haemoglobin was much lower in the exposed fish compared to the control depicting an anaemic condition. The results could provide baseline information for the safe limits of using tobacco leaf dust in fish ponds; hence 1.56 g L^{-1} concentration of tobacco leaf dust was recommended for pond preparation for Clarias gariepinus fingerling stocking. For better survival rates, the fish should only be introduced in the pond after three days of tobacco application.

Key words: Tobacco leaf dust, African catfish fingerlings, Haematological Response, haemoglobin levels