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EFFECT OF ZINC SULPAHTE ON GROWTH AND DEVELOPMENT IN TADPOLES OF TOAD *BUFO FERGUSONII*

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ABSTRACT

Zinc has been recognized to play a vital role in almost all aspects of living system either directly or indirectly. Early studies indicates the presence of Zinc in almost all the organs, and it has been associated with the growth, differentiation, development and reproduction of animals. Long term feeding of large amount of zinc salt to rodents have been reported to result in growth retardation, anemia and metabolic defects. Higher dietary zinc intake causes reduced rate of growth.

Present study has been carried out on the larvae of toad Bufo fergusonii. Selected tadpoles of required stage-32 were divided into five groups. Larvae were kept immersed in different concentration of $ZnSo_4$ solution from 0.01 mg/ml to 0.07 mg/ml for continuously 10 days. Group I was kept as Control group. The morphological parameters used were Total Body Length (TL), tail length (tl), Inter orbital space (IOS), Head Length (HL), Head width (HW) and Limb Stage (LS). It was observed that percentage of larvae surviving at the end of 10 days was 90% in 0.01 mg/ml, 65% in 0.02 mg/ml, 42% in 0.04 mg/ml and 35% in 0.07 mg/ml. Higher concentration of zinc completely inhibited growth, morphogenesis and differentiation of hind limb. The mean total length of body of larvae vary from 9.6 mm to 8 mm in different treated groups whereas it was 16.1 mm in control group. It shows the inhibitory effect of zinc sulphate on growth and development.

KEYWORDS: Zinc Sulphate, Growth, Development, Bufo fergusonii

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