



## Effects of Metal Contaminated Soils on the Survival, Growth and Duration of Life Span of Juveniles of Earthworm, *Eisenia fetida* (Savigny)

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**Abstract:** Juveniles of *Eisenia fetida* were exposed for 11 weeks to soils contaminated with cadmium, lead and nickel collected from four different sites in the vicinity of Buddah Nullah, Ludhiana and uncontaminated soil sample was taken as control. Survival, growth and time taken to reach sexual maturity in juveniles reared in contaminated soils were compared with juveniles in uncontaminated soil. The effects of metal contaminated soils could be attributed both to the direct toxicity of the metals and to changes in scope for growth of the exposed worms. Worms were found sensitive to elevated metal concentrations in first few weeks of the experiment as some mortality occurred in worms during that time of the experiment. Growth was also found affected in worms reared in contaminated soil samples. Duration to attain sexual maturity was found maximum in soil sample taken from the site having highest concentration of lead and nickel among the different samples. Results of the study indicated that elevated metal concentrations in soil adds to the sensitivity of the worms since the different parameters like survival, growth and duration to reach sexual maturity were seen highly affected in the juveniles of *E. fetida* in the contaminated soils.

**Key Words:** Heavy Metals, *Eisenia fetida*, Juveniles, Sexual Maturation, Toxicity

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