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Waste management and bioremediation using earthworms, *Eisenia fetida* and *Eudrilus eugeniae*

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Abstract : *A study was conducted to find out the efficiency of two earthworm species Eisenia fetida and Eudrilus eugeniae in waste management and bioremediation. Earthworms were cultured in cow dung for three months and then transferred to two different kinds of wastes. Samples of these wastes were tested at 0,45 and 90 days to compare the change in N, P, K content, pH, and percent change in concentration of Cu, Mn, Zn, Fe and Pb. The N, P, K content got enhanced in the experimental set-up with worms, whereas, the concentration of all metals decreased except for Zn. The test for bioaccumulation showed enhanced level of metals in the body tissue of worms and decreased level in the substrate, which indicates that earthworms accumulate metals in their body tissues and bioremediate the wastes. Growth of chilli plants was observed and growth was seen best in the compost prepared by Eisenia fetida.*

Key Words : *Earthworms, waste management, bioremedication.*

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Introduction :

Millions of tons of solid waste comprising a great proportion of household and municipal wastes generated from different sources are creating problems worldwide. The disposal of wastes is of great concern as it poses serious management threats particularly in developing countries like, India where its management is mostly unsystematic and unscientific (Chattopadhyay et al., 2009; Pattnaik and Reddy, 2010). It causes pollution of land, water and air which affects human health and environment.