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Earthworms: Charles Darwin' s ' Unheralded Soldiers of Mankind' : Protective & Productive for Man & Environment

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ABSTRACT

Earthworms promises to provide cheaper solutions to several social, economic and environmental problems plaguing the human society. Earthworms can safely manage all municipal and industrial organic wastes including sewage sludge and divert them from ending up in the landfills. Their body work as a ' biofilter' and they can ' purify' and also ' disinfect' and ' detoxify' municipal and several industrial wastewater. They reduce the BOD & COD loads and the TDSS of wastewater significantly. They can even remove the EDCs (endocrine disrupting chemicals) from sewage which is not removed by the conventional sewage treatments plants. Earthworms can bio-accumulate and bio-transform many chemical contaminants including heavy metals and organic pollutants in soil and clean-up the contaminated lands for re-development. Earthworms restore & improve soil fertility by their secretions (growth hormones) and excreta (vermicast with beneficial soil microbes) & boost ' crop productivity' . They have potential to replace the environmentally destructive chemical fertilizers from farm production. The ' protein rich' earthworm biomass is being used for production of ' nutritive feed materials' for fishery, dairy & poultry industries. They are also being used as ' raw materials' for rubber, lubricant and detergent industries. The bioactive compounds isolated from earthworms are finding new uses in production of ' life saving medicines' for cardiovascular diseases and cancer cure.

KEYWORDS

Detoxifying, Disinfecting, Waste Degradation, Wastewater Purification, Soil Decontamination, Soil Fertil-ity, Crop Production, Earthworms Medicines, Nutritive Feed

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