



Treatment of Wastewater of Domestic and Dairy industry using various Eco-friendly methods

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Abstract : *The present study was carried out to evaluate the efficiency of vermifiltration and banana peel in treatment of wastewater from the domestic and dairy industry. The earthworm, Eisenia fetida was taken from the college vermicompost unit. The treated water was tested to observe changes in their physical and chemical properties. The result showed that the pH was brought to neutral. The BOD, COD, TDS and turbidity decreased in the experimental set-up with the earthworms, when compared to control. Therefore, vermifiltration technology was seen as the best option in treating the wastewater. It is a cost effective and environmentally friendly method.*

Keywords : *Vermifiltration, conventional method, banana peel, Eisenia fetida, domestic wastewater, dairy wastewater.*

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Introduction :

Wastewater generation and treatment has become a worrisome issue in the world. Wastewater treatment is the removal of the contaminants from any form of wastewater and it includes physical, chemical and biological processes, so that the water can be reused (Manyuchi et al, 2013).

This study was undertaken mainly to evaluate the treatment of wastewater through different bio-friendly methods. Banana Peel is a suitable bioabsorbent due to its easy availability. It has a high absorption capacity of heavy metals. Banana Peels can be used up to 11 times without losing their metal bonding property (Nafaty et al 2013).

Vermifiltration technology uses epigeic earthworms as a means of aerobically treating wastewater (Manyuchi et al, 2013). The earthworms' bodies work as a bio-filter and earthworms have been found to reduce biological oxygen demand (BOD), chemical oxygen demand (COD), total dissolved solids (TDS), conductivity and turbidity from wastewater. (Manyuchi et al, 2013). This is also an odour-free process and the resulting vermifiltered liquid is clean and clear enough to be reused for farm irrigation and in parks and gardens (Sinha et al, 2007).