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Vermicomposting as A College Kitchen Waste Management Technique

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Abstract

Vermicompost or the castings of the earthworms is an excellent soil enhancer and bioactive fertilizer for organic farming which can also help reduce the amount of biodegradable wastes in domestic areas or commercial complexes.The production of vermicompost contributes to the promotion of organic farming, restoring the fertility of degraded soils, thus recycled as an effective fertilizer. Every educational institution generates kitchen waste which is a potentially valuable resource and disposing offthis wastein the landfill can create odour problems. As disposal in septic systems is inconvenient and it adds to the burden of the waste-treatment system,vermi-composting could be a viable alternative. The resulting material is a useful addition to campus gardens and potted plants as an efficient and eco-friendly way to convert any biodegradable wastes into quality organic fertilizer within relatively shorter period of time and helps to create better campus environment, thus reduce ecological risk.The present study is an experimental field work on Rosary College campus which incorporates vermi-composting for revenue generation andcarbon neutrality.

Keywords: Vermicompost, wet waste, waste management, organic fertilizer, biodegradable, vermiculture.

Introduction

Vermicompost is a process to convert organic waste into fertilizer (Punde et al 2012) as an eco-friendly; non-toxic process which consumes low energy input for composting and generates a recycled biological product (Termorshuizen et al 2005). It is odourless, clean, organic material, containing adequate quantities of Nitrogen, Potassium, Phosphorus and several micronutrients making it a preferred nutrient for organic farming (Pichtel 2005).It has wide applications in organic waste management and has been proven to be an efficient method to manage organic waste materials with diminutive complexity and economic feasibility (Kamwal et al 2012).Earthworms consume various organic wastes and reduce the volume by 40–60% (Domi´nguez et al 1997). Vermicomposting results in a better quality product that is produced in only 4-6 weeks compared to ordinary compost that is produced in 8-12 weeks (Sherman 2011).Small-scale domestic systems typically consist of a suitable container, bedding, earthworms, and proper environmental conditions (Garg et al 2012).Costs of batch vermicomposting are extremely low, and the earthworm populations in reactors reach equilibrium and can usu-