

عنوان مقاله:

Potential of *Eisenia fetida* (Redworm) for the conversion of three varieties of organic waste

محل انتشار:

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خلاصه مقاله:

Purpose The aim of this study was to assess the potential of *Eisenia fetida* (Redworm) in composting different types of waste, namely tea waste (TW), vegetable waste (VW) (leaves of cauliflower), and mixed food waste (MFW). **Method** The experiment was set up inside the Lab room during the summer. For vermicompost preparation, 27 equal size vermi beds of moist sawdust were prepared in a tub basin. The organic wastes were separately fed to earthworms along with 10 grams of bonemeal and 10 grams of eggshell powder as supplemented materials. The mature worms, offspring, and cocoons were then counted after 14 weeks of the experiment. Moisture and pH of vermicompost were measured in the laboratory. **Result** The results show that *Eisenia fetida* preferred tea waste more than vegetable and mixed food waste. The total number of earthworms, including young, increased by 7.13 times in Tea waste with Bonemeal (TW-BM). In mixed food waste composting, the total number was increased by 3.06 times, and mature worms were increased by 0.21 times in MFW-ES. However, all worms died in vegetable waste due to high pH and moisture. The productivity of vermicompost was higher in tea waste ranging from 39.86±0.59% (TW-C) to 43.64±2.75% (TW-ES). **Conclusion** The study concluded that a large number of leafy vegetables are not suitable for the health of earthworms. Significant results were obtained regarding the number of mature worms, offspring production, changes in the total number of worms, number of cocoons, and productivity of vermicompost among three kinds of waste composted.

کلمات کلیدی:

Cocoon, Food waste, tea waste, vermicompost

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