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Bioconversion of *Lantana camara* by vermicomposting with two different earthworm species in monoculture

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ABSTRACT

The experiments were performed in bamboo containers with five different reactors ($R_{ef}1/R_{ee}1$, $R_{ef}2/R_{ee}2$, $R_{ef}3/R_{ee}3$, $R_{ef}4/R_{ee}4$, $R_{ef}5/R_{ee}5$) of varying substrate and cow dung ratio for earthworms i.e. *Eisenia fetida* and *Eudrilus euginae.* Physicochemical properties of the vermicompost produced by each earthworm were evaluated and the performance of both the earthworms was compared. pH was within 7.1-7.5 for all the reactors. The highest Total Kjedahl Nitrogen (TKN) value was found for $R_{ef}4$ with 2.78% whereas it was lowest for $R_{ee}1$ (2.48%). The highest 32.46% change in Total Organic Carbon (TOC) was observed for $R_{ef}3$. At the end of the process C/N ratio was found within 11-14 for both the earthworms. In terms of growth both the earthworms performed well whereas highest net biomass gain for *Eisenia fetida* in $R_{ef}3$ with 37.5%. Vermicomposting is found to be beneficial for the management of *Lantana camara*. *Eisenia fetida* performed better as compared to *Eudrilus euginae.*

Keywords**:** Terrestrial weeds, *Lantana camara, Eisenia fetida, Eudrilus euginae,* Vermicompost