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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 ( $R_{ef1}/R_{ee1}$ ,  $R_{ef2}/R_{ee2}$ ,  $R_{ef3}/R_{ee3}$ ,  $R_{ef4}/R_{ee4}$ ,  $R_{ef5}/R_{ee5}$ ) 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 Kjeldahl Nitrogen (TKN) value was found for  $R_{ef4}$  with 2.78% whereas it was lowest for  $R_{ee1}$  (2.48%). The highest 32.46% change in Total Organic Carbon (TOC) was observed for  $R_{ef3}$ . 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  $R_{ef3}$  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

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