

## **Formulation of organic wastes as growth media for cultivation of earthworm nutrient-rich *Eisenia foetida***

Inadequate management of solid organic waste can lead to the spread of diseases and negatively affects the environment. Fermentation and vermicomposting of organic waste could have dual benefits by generating earthworm biomass for a source of animal feed protein, and, at the same time, turning the organic waste into readily used compost. This study investigated the effect of an organic waste source (as a sole source or blended with others) totaling 24 media for the cultivation of the earthworm *Eisenia foetida*. Eight media sources were applied, namely cow manure, horse manure, goat manure, broiler chicken manure, market organic waste, household organic waste, rice straw, and beef rumen content. *E. foetida* was cultivated for 40 days, then the number of cocoons, earthworms, and the total biomass weight were measured at the end of the cultivation. Results demonstrated that the media source affected *E. foetida* earthworm cultivation. The most effective media were those containing horse manure that led to the production of the highest earthworms and the highest biomass. The produced cocoons and earthworms were poorly correlated with an r-value of 0.26 and p-value of 0.21. Meanwhile, the number and weight of the earthworms correlated well with an r-value of 0.784 and p-value of <0.01. However, the average numbers and weights of the produced earthworms in the media containing horse manure, cow manure, goat manure, and non-blended organic waste were insignificant. Overall results suggest that blended organic wastes can undergo composting to produce nutrient-rich earthworm biomass while turning the solid organic waste into readily used compost.