

EFFICIENCY OF VERMICOMPOSTING BY USING DIFFERENT ANIMAL WASTES TO REDUCE THE ENVIRONMENTAL POLLUTION

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Excessive use of chemical fertilizers causes serious human hazards and environmental issues. The odour generate from the animal wastes also causes discomfort and pollution. Those problems could be solved by utilizing earthworm, *Eisenia foetida* and to make the wastes become organic fertilizer to the plants. Vermicomposting helps to convert organic wastes generated either from the household or industry or the public places into a usable form and can provide nutrients and growth regulating substances to the plants. This study was carried out to find out the efficiency of vermicomposting using different wastes as bedding materials by the red worm, *Eisenia foetida* and the impact of compost on the growth and reproductive performances of *E. foetida*. The bedding materials prepared by using cow, goat, and poultry manures with the combination of teak leaves at 50:50 ratio and cow dung alone (100%), teak leaves alone (100%). Twenty equal size earthworms were weighed and released into each container. Water was sprinkled to maintain 60-70% moisture. The mean total body weight gain was 14.91 ± 0.31 g, mean total number of adults was 147.5, composting performance (100%) of *E. foetida* was high in goat manure (50%) + teak leaves (50%) combination. The mean total number of hatchlings was high (76.5) in cow dung (50%) + teak leaves (50%). The teak leaves (100%) had low performance with all other bedding materials. Goat manure (50%) + teak leave (50%) combination is good for vermicomposting by *E. foetida*. Present study revealed that the composting performance and the total number of adults were higher in the goat manure application than other tested manures. Hence, the goat manure can be used to enhance the vermicompost efficiency, for the application to vegetable plants.

Key words: *Animal waste, Eisenia foetida, Goat manure, Vermicompost, Teak leaves*

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