Suppressive Effect of Neem Leaves on Barnyard Earthworm, *Eisenia foetida*

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Abstract

Azadiractin may work as an insect growth regulator interfering with ecdysone, which prevents immature insects from molting. Neem products may also repel insects, stop their feeding, inhibit reproduction and cause other interruptions (Schumutterer, 1990). An experiment was conducted to select the suitable organic waste diet mixture for mass rearing of earthworms. Plant wastes such as fallen leaves of mango (*Mangifera indica*), teak (*Tectona grandis*), jack (*Artocarpus heterophyllus*), neem (*Azadirachta indica*) and a mixture of equal proportion of all leaves were used to prepare the diet mixture. Equal quantity of dried fallen leaves were mixed first with equal volume of fresh cow dung slurry and kept it for 14 days for oxidation. Then ten earth worms of even age were released into each treatment. The cow dung, an animal waste was able to support *E. foetida* to obtain weight gain of 0.71g. The weight gain of *E. foetida* in all the diet mixtures were varied greatly. Neem and cow dung mixture recorded the lowest body weight gain of 0.13g and the worms lost their weight after 45 days. Teak cattle mixture was able to attain the highest weight gain of (1.13g) of *E. foetida* and its is significantly greater than other diet mixtures. Mixture of leaves with cow dung was the next best diet mixture, which was able to support the maximum weight gain of *E. foetida* of 0.92g. Mango and jack leaves cow dung mixture were moderately performed. The growth rate of *E. foetida* was highest (25.9mgday-1) in teak+cow dung mixture. Mixture of all leaves with the cow dung was the next best and obtained 20.4mgday-1. Growth rate of *E. foetida* was low (2.8mgday-1) in neem and cow dung diet mixture. Jack leaves cow dung mixture produced 2.4 cocoons by a worm in a week period. These results clearly shows that teak leaves cow dung mixture is the best diet mixture for *E. foetida* where as the neem leaves were not favoured the growth and development of *E. foetida*. These results showed that neem leaves can be used if applied in adequate quantity to repel the worms from the vicinity of nursery beds where the earthworm menace is serious by disturbing the germinating seeds and roots of young seedlings. However to promote the Vermiculture industry the diet mixture of the earthworm should be devoid of neem leaves to mass rear the worms in adequate numbers.