**The Effect of Trichoderma Species on the Process of Biodegradation of Organic Materials to Use in Compost Making**

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Trichoderma Species have been widely used in agricultural applications due to their biological decomposition ability. The rate of the decomposition process of organic material increases with the inoculation of Trichoderma species. Therefore, this experiment was conducted to find out the effect of Trichoderma Species on the process of biodegradation of organic materials to use in compost making. The biodegradable ability of three Trichoderma species (*Trichoderm*a *hamatum,* *Trichoderma harzianum*, *Trichoderma koningiopsis*) was tested against four organic materials (Gliricidia leaves, Guinea grass, poultry manure, paddy husk) in this study. All types of organic material were tested without Trichoderma species as the control. The experiment consisted of sixteen experimental units and those are arranged as Completely Randomized Design (CRD). The experiment was conducted at the soil science laboratory of Fruit Research and Development Institute, Kananwila, Horana for 15 weeks period. Organic materials were put into the same size ventilated plastic containers and Trichoderma species were inoculated. Readings on lowering the ingredient height (mm) and lowering the weight (g) in plastic containers were recorded 30 and 60 days after inoculation. Results showed significant differences between Trichoderma inoculated and not inoculated samples. Significant lowering of height and weight were observed for *Trichoderma hamatum* inoculated Gliricidia. *Trichoderma harzianum* significantly affects the decomposition of Guinea grasses and *Trichoderma koningiopsis* affects for decomposition of poultry manure and paddy husk. Accordingly, Trichoderma species are suitable for the enhancement of the biodegradation rate of organic materials which are used for the compost making process.

Key words: - *biodegradation, decomposition, inoculation, Trichoderma*