

**EFFICACY OF *Metarhizium anisopliae* WITH THE ADDITION OF
ORGANIC MATERIALS TO CONTROL WHITE GRUB (*Lepidiota stigma*)
IN RED GINGER (*Zingiber officinale* var. *Rubrum*)**

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ABSTRACT

The growth of ginger plants that is not optimal is influenced by several factors including the use of inappropriate planting media and plant-disturbing organisms such as white grub pests. *Metarhizium anisopliae* with the addition of organic matter is used as a pest control for white grub as well as a source of nutrition for *M. anisopliae*. This study aims to determine the ability of *M. anisopliae* with the addition of organic matter in controlling white grub pests in ginger plants. The research was conducted at the Experimental Garden of UPN "Veteran" Yogyakarta Sempu, Wedomartani, Ngemplak, Sleman, Yogyakarta and the UPNVYK Plant Protection Laboratory. The study was arranged in a Randomized Completely Block Design (RCBD) with 2 factors + 1 control which was repeated 3 times. The first factor was the dose of *M. anisopliae*, 10 g/3 kg, 20 g/3 kg, and 30 g/3 kg. The second factor is the type of organic material, vermicompost, cow manure and goat manure. Parameters observed included mortality of *Lepidiota stigma*, speed of white grub death, intensity of red ginger plants (%), plant height (cm), root fresh weight, and root volume (mL).

The data was analyzed by analysis of Variance (ANOVA) with a significant level of 5% and also by using contrast orthogonal with 5% level. Further tests were carried out with Duncan's Multiple Range Test (DMRT).

Keywords: Ginger, *Metarhizium anisopliae*, Vermicompost fertilizer, Cow Manure, Goat Manure