

EFFECTIVENESS OF VARIOUS ENTOMOPATHOGENIC FUNGI SPECIES IN AFFECTING THE MORTALITY AND DEVELOPMENT OF THE ARMYWORM (*Spodoptera litura*)

By : Annisa Latifa

Supervised by: Chimayatus Solichah

ABSTRACT

Spodoptera litura is one of the most significant pests in Indonesian agriculture due to its voracious appetite and polyphagous nature. This study aims to test the effectiveness of entomopathogenic fungi specifically *Beauveria bassiana*, *Metarhizium anisopliae*, and *Metarhizium rileyi* at various concentrations, as well as to determine the most effective fungal species and concentration for controlling *S. litura* larvae. This study was conducted at the Plant Protection Laboratory of UPN “Veteran” Yogyakarta from January to May 2026. The research method employed a laboratory experiment using a completely randomized design (CRD) with one factor treatments of *B. bassiana* at 10^6 spores/mL and 10^8 spores/mL, *M. anisopliae* at 10^6 spores/mL and 10^8 spores/mL, and *M. rileyi* at 10^6 spores/mL and 10^8 spores/mL. The research data were analyzed using analysis of variance (ANOVA) at a 5% significance level and further tested using orthogonal contrasts. The observed variables included viability tests, mortality, attack symptoms, mortality rates, the time for larvae to become pupae, the time for pupae to become larvae, the percentage of pupae, the percentage of adults, and the feed consumption rate. The results showed significant differences between the control and the treatments, but no significant differences were found among the entomopathogen treatments.

Keywords: Entomopathogenic fungi, *Beauveria bassiana*, *Metarhizium anisopliae*, *Metarhizium rileyi*, Concentration