

THE EFFECT OF CONCENTRATION AND FREQUENCY OF *Beauveria bassiana* (BALS.) VUILLEMIN APPLICATION ON THE BIOLOGICAL COMPONENTS OF ARMYWORM (*Spodoptera litura* F.)

By: Mohammad Daffa Herda Pramudya
Supervised by: RR Rukmowati Brotodjodjo dan Mofit Eko Poerwanto

ABSTRACT

Armyworm (*Spodoptera litura* F.) is one of the important leaf miner pests because it has a wide host range. Control of *Spodoptera litura* can be done by the use of the entomopathogenic fungus *Beauveria bassiana*. This study aims to determine the effect of dose and frequency of *Beauveria bassiana* application on the biological components of armyworms (*Spodoptera litura*). This research was conducted at the Plant Protection Laboratory, Faculty of Agriculture, Universitas Pembangunan Nasional “Veteran” Yogyakarta from September to November 2023. This study used a one-factor Completely Randomized Design with 8 treatments and 1 control repeated three times. The treatments were 15g/L concentration every 3 days, 30g/L every 3 days, 45g/L every 3 days, 60g/L every 3 days, 15g/L every 6 days, 30g/L every 6 days, 45g/L every 6 days, 60g/L every 6 days, and control. Observation parameters included mortality of *S. litura* larvae, feeding ability, time for larval to pupal phase, time for pupal to imago phase, percentage of larvae into pupal, percentage of larvae into imago, and efficacy. The data obtained were analyzed by analysis of variance (ANOVA) and then further tested using the *Scott-Knott* test at the 5% level. The results showed that the application of *B. bassiana* at various concentrations and application frequencies had an effect on the biological components of the armyworm (*S. litura*) which included feeding ability, time for larval to pupal phase, percentage of larvae into pupae, time for pupal to imago phase, and percentage of larvae into imago. The application of *B. bassiana* concentrations of 45g/liter of water every 3 days, 45g/liter of water every 6 days, 60g/liter of water every 3 days, and 60g/liter of water every 6 days gave the best effect in increasing *S. litura* mortality and efficacy.

Key Words : *Beauveria bassiana*, Concentration, Frequency of application.