

THE EFFECT OF VARIOUS CONCENTRATIONS AND INTERVAL APPLICATIONS OF *Beauveria bassiana* ON THE DEVELOPMENT OF PESTS *Spodoptera litura* ON MUSTARD PLANT (*Brassica juncea*)

By: Dian Ardhana Yoga Pamungkas

Supervised By: Chimayatus Solichah and Rukmowati Brotodjojo

ABSTRACT

Tropical Armyworm (*Spodoptera litura* F) is one of the important pests of mustard plants which causes yield loss of up to 85%. Efforts to reduce the use of chemical pesticides are carried out using environmentally friendly *Beauveria bassiana* (Bals.) Vuill. The aim of the research was to examine the interaction between concentrations and application intervals of *B.bassiana* on the development of *S.litura*, to determine which concentrations and application intervals of *B.bassiana* were most effective in inhibiting the development of *S.litura* on mustard plants. The design used was a completely randomized design (CRD) factorial with two factors and one control. The first factor was the concentration of *B.bassiana* which consisted of 1% and 1.5% concentrations, the second factor was the application interval of *B.bassiana* which consisted of intervals of 4 days, 8 days and once every 12 days. Data were analyzed for diversity using analysis of variance (ANOVA) at 5% level and orthogonal contrast test if there was a significant difference between the treatments followed by the DMRT test. The results showed that the combination treatment was significantly better than the control on all parameters and there was no interaction between treatment concentration and application interval. The concentration of *B.bassiana* did not show significant differences in each treatment for all parameters. Treatment with an application interval of once every 4 days was significantly better in increasing the mortality of *S.litura* and the efficacy of *B.bassiana*, reducing the intensity of damage and the percentage of larvae turning into pupae and imago, accelerating the appearance of symptoms and the occurrence of death of *S.litura* larvae.

Keywords : mustard plants, *Spodoptera litura* , *Beauveria bassiana*