EFFECT OF SEVERAL DIFFERENT CONCENTRATIONS AND TIME OF APPLICATION OF VERTYSEL BIOLOGICAL AGENTS (*Lecanillium lecanii*) AS GRASSHOPPERS (*Oxya sinensis*) CONTROL IN ORGANIC RICE PLANTS

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ABSTRACT

Grasshopper (Oxya sinensis) is one of the main pests in organic rice cultivation, so it needs to be controlled using environmentally friendly products. This study aimed to determine the effectiveness of Vertysel Biological Agent (Lecanillium lecanii) treatment against grasshopper pests on organic rice plants. This research was conducted from October 2021 to February 2022, at PT. Sirtanio Organic Indonesia is located in Banyuwangi Regency, East Java Province of Indonesia. This study used a factorial split-plot design with three levels of Vertysel concentration (5 ml/liter of water, 10 ml/liter of water, and 15 ml/liter of water), and two types of application times (morning and afternoon). Data analysis using ANOVA followed by DMRT follow-up test. The results showed that there was a significant difference in the interaction between concentration and application time. The lowest pest attack intensity was found in the interaction of 15 ml/liter and afternoon application time 11%, while the highest pest attack 17% intensity was found at 5 ml/liter concentration and morning application time. In general, the concentration of 15 ml/liter showed significant differences which had the lowest number of pest population (2.38 grasshoppers) and the highest dry grain weight 19.8 g, while the highest number of pest population 5.25 grasshoppers and the lowest dry grain weight 14.9 g were found at a concentration of 5 ml/l. In addition, the application time factor also resulted in a significant notation where the afternoon application showed the highest dry grain weight 18.18 grams, while the morning application showed the dry grain weight 16.61 g.

Keyword : *Biological Agents, Entomopathogenic fungi, Grasshoppers, Lecanillium lecanii, Organic Rice*