

***Utilization of Entomopathogenic Fungi Beauveria bassiana Against
Whitefly (Bemisia tabaci) on Organic Soybean Plants***
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ABSTRACT

Whitefly (*Bemisia tabaci*) is one of the pests that has become an obstacle in increasing soybean production until now and can reduce crop yields by 80% if not controlled. Research on the fungus *B. bassiana* needs to be carried out to obtain effective concentrations in controlling whitefly on soybeans. The research was carried out at the Plant Protection and TPB Laboratory of the Jember State Polytechnic and on land owned by PT. Sirtanio Organik Indonesia, located in Sumberbaru Village, Singojuruh District, Banyuwangi from August to December 2022. The research was carried out in two stages. The first stage is an efficacy test to determine the reference concentration used in the field. Laboratory tests used RAL with 6 treatment levels namely concentrations of 0%, 10%, 15%, 20%, 25% and 30%. The second phase of the study was to compare the two treatments, namely *Beauveria bassiana* with a concentration of 10% and a soursop leaf pesticide with a concentration of 29% at a dose of 500 mL/ha. The observed variables included efficacy, attack intensity and weight of 100 seeds. Data were analyzed using the SPSS application by conducting non-parametric statistical tests. The conclusion in this study is the insecticidal efficacy of the biological agent *Beauveria bassiana* against whitefly (*Bemisia tabaci*) which shows results above 70%, namely a concentration of 10% with a value of 85%. The application of entomopathogenic fungal pesticides *Beauveria bassiana* and soursop leaves showed no significant differences in the intensity of attack, namely the treatment of *Beauveria bassiana* 6.3% and the plant-based pesticides of soursop leaves 6.7% and the weight of 100 seeds, namely the treatment of *Beauveria bassiana* 19.4 g and the plant-based pesticides soursop 19.46 g.

Keywords: Beauveria bassiana, Concentration, Whitefly, Soybean, Organic