

**COMPATIBILITY TEST OF BIOPESTICIDE *Beauveria bassiana*
WITH INSECTICIDE EMAMECTIN BENZOATE AND ITS
EFFECTIVENESS ON SHALLOT CATERPILLARS *Spodoptera exigua***

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ABSTRACT

Spodoptera exigua Hubner was an important pest in shallot plants. Integrated pest control efforts that were widely carried out combined pest control with biological agents and synthetic pesticide applications. The purpose of this study was to examine the effect of the application of synthetic insecticides made from the active ingredient Emamectin Benzoate on the growth of the fungus *Beauveria bassiana* Vuill and to determine the level of effectiveness of the combination of *B. bassiana* fungus and Emamectin Benzoate insecticide against *S. exigua*. This research method used a Completely Randomized Design with 5 replication. The insecticide compatibility test used *B. bassiana* and Emamectin Benzoate (0.1g/L; 0.2g/L, 0.4g/L) and control. The effectiveness test used the application of *B. bassiana*, Emamectin Benzoate 0.4 g/L, *B. bassiana* + Emamectin Benzoate 0.1g/L, and *B. bassiana* + Emamectin Benzoate 0.2g/L. Observation data obtained were analyzed using Analysis of Variance (5%) and Duncan's Multiple Range Test (5%). The compatibility test results showed that insecticide Emamectin Benzoate was found compatible with *B. bassiana* because all concentrations and control tested did not significantly affect the parameters of colony growth, inhibition, spore density, viability, and compatibility. The combination treatment of *B. bassiana* + Emamectin Benzoate 0,1 g/L and 0,2 g/L significantly increased mortality, shortened the speed of death, and achieved higher insecticidal effectiveness against *S. exigua* compared to the single application of *B. bassiana* and Emamectin Benzoate.

Keywords: Compatibility, *Beauveria Bassiana*, Emamectin Benzoate, Effectiveness, *Spodoptera Exigua*