UJI EFEKTIVITAS CAMPURAN JAMUR ENTOMOPATOGEN (*Beauveria bassiana* (Bals.) Vuil) DAN EKSTRAK DAUN MIMBA TERHADAP MORTALITAS DAN PERKEMBANGAN ULAT GRAYAK (*Spodoptera litura* F.)

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ABSTRAK

Ulat grayak (*Spodoptera litura* F.) adalah hama yang mengakibatkan penurunan produktivitas dan kegagalan panen. Pengendalian *S. litura* dapat menggunakan jamur *B. bassiana* dan ekstrak mimba. Tujuan penelitian untuk mengetahui campuran terbaik *B. bassiana* dan ekstrak mimba untuk meningkatkan mortalitas dan menghambat perkembangan hama *S. litura*. Penelitian dilaksanakan di Lab Proteksi, Program Studi Agroteknologi, Fakultas Pertanian, Universitas Pembangunan Nasional 'Veteran' Yogyakarta. Penelitian menggunakan Rancangan Acak Lengkap (RAL) 8 perlakuan yaitu perlakuan tunggal *B. bassiana*, ekstrak daun mimba (5 %, 10 %, dan 20 %), campuran masing-masing antara *B. bassiana* 10^8 dengan ekstrak daun mimba (5 %, 10 %, dan 20 %) pada setiap perlakuan dilakukan 3 kali ulangan. Parameter yang diamati yaitu uji kompatibilitas, mortalitas, kecepatan kematian, persentase dan waktu, aktivitas makan, dan efektivitas. Data hasil pengamatan dianalisis keragamannya menggunakan ANOVA, apabila hasil yang diperoleh menunjukkan pengaruh tidak nyata maka dilakukan uji lanjut berupa uji BNT dengan taraf 5%. Hasil penelitian menunjukkan campuran *B. bassiana* dan ekstrak daun mimba efektif dalam meningkatkan mortalitas dan menekan perkembangan hama S. litura. Campuran *B. bassiana* 1×10^8 konidia/mL dan ekstrak daun mimba 15 % mampu meningkatkan mortalitas larva, mempercepat kematian larva, meningkatkan daya hambat makan, menekan perkembangan pupa dan memiliki efektivitas insektisida yang tinggi.

Kata Kunci: ulat grayak, *B. bassiana*, daun mimba, mortalitas.

THE EFFECTIVENESS TEST OF THE MIXTURE OF ENTOMOPATHOGENIC (*Beauveria bassiana* (Bals.) Vuil) AND NEEM LEAF EXTRACT ON THE MORTALITY AND DEVELOPMENT ARMYWORM (*Spodoptera litura* F.)

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ABSTRACT

Armyworm (*Spodoptera litura* F.) is a pest that causes a decrease in productivity and harvest failure. Control of S. litura can be achieved using the fungus *B. bassiana* and neem extract. The objective of this study was to determine the best combination of *B. bassiana* and neem extract to increase the mortality and inhibit the development of the S. litura pest. The research was conducted at the Protection Laboratory, Agrotechnology Study Program, Faculty of Agriculture, National Development University 'Veteran' Yogyakarta. The study employed a Completely Randomized Design (CRD) with 8 treatments: single application of *B. bassiana*, single application of neem leaf extract (5 %, 10 %, dan 20 %) and combinations of *B. bassiana* (10^8 conidia/ml) with neem leaf extract (5 %, 10 %, dan 20 %). Each treatment was replicated 3 times. The observed parameters included compatibility test, mortality, speed of kill, percentage and time of pupation, feeding activity, and effectiveness. The resulting observational data were analyzed for variance using ANOVA. If the results showed a significant effect, a further test, the Least Significant Difference (LSD) test at the 5% level, was performed. The research results indicated that the combination of *B. bassiana* and neem leaf extract was effective in increasing mortality and suppressing the development of the *S. litura* pest. Specifically, the combination of *B. bassiana* 1×10^8 conidia/mL and neem leaf extract 15 % was able to increase larval mortality, accelerate the death of the larvae, enhance feeding inhibition, suppress pupa development, and demonstrate high insecticidal effectiveness.

Keywords: armyworm, *B. bassiana*, neem leaf, mortality.