

**VIRULENSI BEBERAPA ISOLAT CENDAWAN
ENTOMOPATOGEN *Trichoderma asperellum* TERHADAP
Spodoptera litura Fabricius (Lepidoptera: Noctuidae)**

SKRIPSI



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Abstrak

Ulat grayak (*Spodoptera litura*) merupakan hama penting pada tanaman budidaya. Salah satu pengendalian alternatif *S. litura* yang bisa dilakukan adalah penggunaan cendawan entomopatogen *Trichoderma asperellum*. Penelitian ini bertujuan untuk mendapatkan isolat *T. asperellum* yang virulen dalam mengendalikan *S. litura*. Penelitian dilakukan menggunakan Rancangan Acak Lengkap (RAL) dengan 5 perlakuan dan 4 ulangan. Perlakuan tersebut adalah cendawan *T. asperellum* SD324, *T. asperellum* SD327, *T. asperellum* AB2B3, *T. asperellum* A116 dan kontrol. Kerapatan konidia cendawan yang digunakan 10^8 konidia/ml. Suspensi konidia diaplikasikan pada larva instar II *S. litura*. Variabel pengamatan yaitu kerapatan konidia, luas koloni, mortalitas larva, persentase pupa terbentuk, persentase imago terbentuk, jumlah kelompok telur, dan mikosis. Data dianalisis dengan sidik ragam dan uji LSD pada taraf 5%. Hasil penelitian menunjukkan bahwa semua isolat *T. asperellum* mampu mematikan larva *S. litura*. Isolat yang paling virulen adalah isolat cendawan *T. asperellum* A116 dengan mortalitas larva *S. litura* hingga 58,33% setelah 7 hari aplikasi dan 81,67% pada 20 hari setelah aplikasi. Aplikasi cendawan *T. asperellum* A116 juga menghambat pembentukan pupa dan imago, serta pembentukan kelompok telur. Mikosis pada larva *S. litura* tertinggi adalah pada isolat cendawan *T. asperellum* A116 yaitu sebesar 45,00%.

Kata kunci: Cendawan entomopatogen, *S. litura*, *T. asperellum*

VIRULENCE OF SOME ISOLATES OF THE ENTOMOPATOGEN *Trichoderma asperellum* AGAINST *Spodoptera litura* Fabricius (Lepidoptera: Noctuidae)

Abstract

Armyworm (*Spodoptera litura*) is an important pest in crops. One alternative to control *S. litura* is using entomopathogenic fungus *Trichoderma asperellum*. This study aims to obtain isolates of *T. asperellum* that are virulent in controlling *S. litura*. The research was conducted using a Completely Randomised Design (CRD) with five treatments and four replicates. The treatments were *T. asperellum* SD324, *T. asperellum* SD327, *T. asperellum* AB2B3, *T. asperellum* A116 and control. The conidia density of the fungus used was 10^8 conidia/ml. The conidia suspension was applied to the second instar larvae of *S. litura*. The observation variables were conidia density, colony area, larval mortality, percentage of pupae formed, percentage of adult formed, number of egg groups, and mycosis. Data were analyzed with variance analysis and an LSD test at a 5% level. The results showed that all *T. asperellum* isolates could kill *S. litura* larvae. The most virulent isolate was *T. asperellum* A116, with mortality of *S. litura* larvae up to 58.33% after 7 days of application and 81.67% at 20 days after application. Application of *T. asperellum* A116 also inhibited pupae and adult formation and egg cluster formation. Mycosis in *S. litura* larvae was highest in fungus isolate *T. asperellum* A116, which was 45.00%.

Keywords: Entomopathogenic fungi, *S. litura*, *T. asperellum*

