

**EFEKTIVITAS CENDAWAN ENTOMOPATOGEN *Trichoderma asperellum* TERHADAP TELUR *Spodoptera litura* Fabricius  
(Lepidoptera : Noctuidae)**

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# EFEKTIVITAS CENDAWAN ENTOMOPATOGEN *Trichoderma asperellum* TERHADAP TELUR *Spodoptera litura* Fabricius ( Lepidoptera : Noctuidae)

## Abstrak

*Spodoptera litura* merupakan hama utama pada berbagai komoditas pertanian. Salah satu jenis cendawan entomopatogen yang berpotensi untuk pengendalian *S. litura* adalah *T. asperellum*. Tujuan dari penelitian ini untuk mendapatkan isolat cendawan *T. asperellum* yang efektif dalam memengaruhi perkembangan *S. litura* di laboratorium. Penelitian dilakukan di Laboratorium Pengendalian Hayati Departemen Proteksi Tanaman Fakultas Pertanian Universitas Andalas Padang, dari bulan Mei-Agustus 2024. Rancangan penelitian yang digunakan adalah RAL (Rancangan Acak Lengkap) dengan lima perlakuan dan lima ulangan. Perlakuan terdiri dari isolat cendawan *T. asperellum* AB2B3, *T. asperellum* A116, *T. asperellum* PC21, *T. asperellum* SD327, dan kontrol. Kerapatan konidia cendawan yang digunakan adalah  $10^8$  konidia/ml. Suspensi konidia diaplikasikan pada telur *S. litura*. Variabel pengamatan yang diamati adalah mortalitas telur *S. litura*, mortalitas larva instar pertama, persentase pupa terbentuk, persentase imago terbentuk, perbandingan jumlah imago jantan dan betina, jumlah kelompok telur dan telur diletakkan, dan masa pra-oviposisi, oviposisi dan pasca-oviposisi dari imago betina. Hasil penelitian menunjukkan semua perlakuan isolat cendawan *T. asperellum* dapat memengaruhi mortalitas telur, isolat yang efektif dalam mengendalikan telur *S. litura* adalah isolat cendawan *T. asperellum* AB2B3 sebesar 37,04% dengan efektivitas 97,20% dan isolat *T. asperellum* PC21 sebesar 29,64% dengan efektivitas 96,20%, perlakuan juga dapat menyebabkan mortalitas larva instar pertama, mempengaruhi pembentukan pupa dan imago.

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

# EFFECTIVENESS OF THE ENTOMOPATOGEN *Trichoderma asperellum* ON THE EGGS OF *Spodoptera litura* Fabricius (Lepidoptera: Noctuidae)

## Abstract

*Spodoptera litura* is a major pest in various agricultural commodities. One of entomopathogenic fungus that has the potential to be used to control *S. litura* is *T. asperellum*. This study aims to obtain an isolate of fungus *T. asperellum* that is effective in controlling egg clusters of *S. litura* in the laboratory. The research was conducted at the Biological Control Laboratory of the Department of Plant Protection, Faculty of Agriculture, Andalas University Padang, from May to August 2024. The research design used was RAL (Completely Randomized Design) with five treatments and five replicates. The treatments consisted of fungal isolates *T. asperellum* AB2B3, *T. asperellum* A116, *T. asperellum* PC21, *T. asperellum* SD327, and controls. The density of fungal conidia used was  $10^8$  conidia/ml. The conidia suspension was applied to *S. litura* eggs. Observational variables observed were mortality of *S. litura* eggs, mortality of first instar larvae, percentage of pupae formed, percentage of imago formed, ratio of the number of male and female imago, number of egg groups and eggs laid, and pre-oviposition, oviposition and post-oviposition periods of female imago. The results showed that all *T. asperellum* isolates significantly affected egg mortality. The most effective isolates for controlling *S. litura* eggs were *T. asperellum* AB2B3, with a mortality rate of 37.04% and an efficacy of 97.20%, and *T. asperellum* PC21, with a mortality rate of 29.64% and an efficacy of 96.20%. Treatments also induced first-instar larval mortality and influenced pupal and imago formation.

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