

**PENGARUH BERBAGAI ISOLAT CENDAWAN
Trichoderma asperellum Samuels TERHADAP PENETASAN
TELUR DAN PERKEMBANGAN
Henosepilachna vigintioctopunctata Fabricius
(Coleoptera: Coccinellidae)**

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***Sebagai Salah Satu Syarat Untuk Memperoleh Gelar
Sarjana Pertanian***

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Abstrak

Henosepilachna vigintioctopunctata merupakan hama penting pada tanaman dari famili Solanaceae. Salah satu jenis cendawan entomopatogen yang berpotensi untuk pengendalian *H. vigintioctopunctata* adalah *Trichoderma asperellum*. Tujuan penelitian ini untuk menentukan isolat cendawan *T. asperellum* yang efektif dalam menekan penetasan telur dan perkembangan *H. vigintioctopunctata* di laboratorium. Penelitian dilakukan dengan menggunakan Rancangan Acak Lengkap (RAL) dengan lima perlakuan dan lima ulangan. Perlakuan terdiri dari isolat cendawan *T. asperellum* AB2B3, A116, PC21, SD327, dan kontrol (tanpa cendawan). Kerapatan konidia cendawan yang digunakan adalah 10^8 konidia/ml. Suspensi konidia diaplikasikan pada telur *H. vigintioctopunctata* yang berumur 1 hari. Variabel pengamatan yang diamati adalah persentase telur *H. vigintioctopunctata* tidak menetas, mortalitas larva instar 1, persentase pupa terbentuk, persentase imago terbentuk, jumlah kelompok telur dan telur diletakkan, luas koloni cendawan, kerapatan konidia, dan daya kecambah konidia. Hasil penelitian menunjukkan semua isolat cendawan *T. asperellum* yang diuji mampu menghambat penetasan telur *H. vigintioctopunctata* sebesar 31,00-42,00%, mematikan larva instar 1, 2 dan 3 serta menekan pembentukan pupa dan imago. Isolat *T. asperellum* A116 paling efektif dalam mematikan larva instar 1 dengan mortalitas 83,02%. Terdapat 3 isolat yang efektif dalam menghambat pembentukan pupa dan imago yaitu *T. asperellum* AB2B3, *T. asperellum* A116 dan *T. asperellum* SD327 yang berkisar 8,21-16,98% dan 7,36-16,98%. Dari semua isolat yang diuji, isolat *T. asperellum* AB2B3 memiliki rata-rata efektivitas tertinggi sebesar 77,75%.

Kata kunci : Cendawan entomopatogen, *H. vigintioctopunctata*, *T. asperellum*

THE EFFECTS OF VARIOUS FUNGAL ISOLATES OF *Trichoderma asperellum* Samuels ON EGG HATCHING AND DEVELOPMENT OF *Henosepilachna vigintioctopunctata* Fabricius (Coleoptera: Coccinellidae)

Abstract

Henosepilachna vigintioctopunctata is a major pests of plants in the Solanaceae family. One of entomopathogenic fungus with potential for controlling *H. vigintioctopunctata* is *Trichoderma asperellum*. This study aims to identify *T. asperellum* fungal isolates effective in suppressing egg hatching and the development of *H. vigintioctopunctata* in the laboratory. The study was conducted using a completely randomized design (CRD) with five treatments and five replicates. The treatments consisted of *T. asperellum* fungal isolates AB2B3, A116, PC21, SD327, and a control (without fungus). The fungal conidia density used was 10^8 conidia/mL. The conidia suspension was applied to *H. vigintioctopunctata* eggs. The observed variables were the percentage of unhatched *H. vigintioctopunctata* eggs, first-instar larval mortality, percentage of pupae formed, percentage of adults formed, number of egg clusters and eggs laid, fungal colony area, conidial density, and conidial germination rate. The results of the study showed that all *T. asperellum* fungal isolates tested were able to inhibit the hatching of *H. vigintioctopunctata* eggs (31.00–42.00%), kill first-, second-, and third-instar larvae, and suppress the formation of pupae and adults. The *T. asperellum* isolate A116 was the most effective at killing first-instar larvae, with a mortality rate of 83.02%. Three isolates were effective in inhibiting pupa and adult formation: *T. asperellum* AB2B3, *T. asperellum* A116, and *T. asperellum* SD327, with inhibition rates ranging from 8.21–16.98% and 7.36–16.98%, respectively. Of all the isolates tested, the *T. asperellum* AB2B3 isolate had the highest average effectiveness at 77.75%

Keywords: Entomopathogenic fungi, *H. vigintioctopunctata*, *T. asperellum*