

**UJI PATOGENISITAS JAMUR *Metarhizium anisopliae* DENGAN
PENAMBAHAN BERBAGAI KONSENTRASI KITIN PADA MEDIA
PERBANYAKAN TERHADAP LARVA KUMBANG TANDUK
(*Oryctes rhinoceros*)**

**PATHOGENITY TEST OF THE METARHIZIUM FUNGUS BY
ADDING VARIOUS CONCENTRATION OF CHITIN TO THE
PROPAGATION MEDIA AGAINST HORN BEETLE LARVAE
(*Oryctes rhinoceros*)**

ABSTRAK

Kumbang tanduk (*Oryctes rhinoceros*) adalah hama yang dapat menyebabkan kematian pada tanaman kelapa muda. Pengendalian hayati menggunakan jamur entomopatogen *Metarhizium anisopliae* dapat dipakai untuk mengendalikan larva kumbang tanduk. Untuk meningkatkan virulensinya, dapat dilakukan dengan penambahan senyawa kitin. Tujuan penelitian ini adalah mengetahui pengaruh penambahan berbagai konsentrasi kitin pada media perbanyakan terhadap perkembangan konidia jamur *M. anisopliae* serta terhadap virulensi jamur *M. anisopliae* yang diaplikasikan pada larva *O. rhinoceros*. Penelitian ini dilakukan di Laboratorium Hayati Pakem Dinas Pertanian dan Ketahanan Pangan, Sleman, D.I. Yogyakarta. Percobaan di laboratorium menggunakan Rancangan Acak Lengkap Faktor Tunggal sebagai perlakuannya dengan penambahan berbagai konsentrasi kitin yaitu: kontrol tanpa penambahan kitin (P0); kitin dengan konsentrasi 5% (P1); kitin dengan konsentrasi 10% (P2); kitin dengan konsentrasi 15% (P3); kitin dengan konsentrasi 20% (P4). Hasil penelitian menunjukkan bahwa, perlakuan dengan penambahan konsentrasi kitin 10% pada media perbanyakan meningkatkan kerapatan, viabilitas, dan virulensi jamur *M. anisopliae* yang digunakan dalam mengendalikan hama larva kumbang tanduk. Sedangkan perlakuan dengan penambahan kitin 15% dan 20% pada media perbanyakan justru menurunkan viabilitas dan kerapatan spora jamur. Hasil uji korelasi menunjukkan terdapat pengaruh yang kuat antara viabilitas dengan persentase kematian serangga.

Kata kunci: *Virulensi, Oryctes rhinoceros, Metarhizium anisopliae, Kitin.*

ABSTRACT

The horn beetle (*Oryctes rhinoceros*) is a pest that can cause death to young coconut trees. Biological control using the entomopathogenic fungus *Metarhizium anisopliae* can be used to control horn beetle larvae. To increase its virulence, it can be done by adding chitin compounds. The Purpose of this research was to determine the effect of adding various concentrations of chitin to the propagation media on the development of *M. anisopliae* fungus conidia and on the virulence of the *M. anisopliae* fungus applied to *O. rhinoceros* larvae. This research was conducted at the Pakem Biological Laboratory, Department of Agriculture and Food Security, Sleman, D.I. Yogyakarta. Experiments in the laboratory used a Single Factor Completely Randomized Design as treatments with the addition of various concentrations of chitin, namely: control without the addition of chitin (P0); chitin with a concentration of 5% (P1); chitin with a concentration of 10% (P2); chitin with a concentration of 15% (P3); chitin with a concentration of 20% (P4). The research results showed that treatment with the addition of 10% chitin concentration to the propagation media increased the density, viability and virulence of the *M. anisopliae* fungus which is used to control horn beetle larval pests. Meanwhile, treatment with the addition of 15% and 20% chitin to the propagation media actually reduced the viability and density of fungal spores. The correlation test results showed that there was a strong influence between viability and the percentage of insect deaths.

Keywords: *Virulence, Oryctes rhinoceros, Metarhizium anisopliae, chitin*