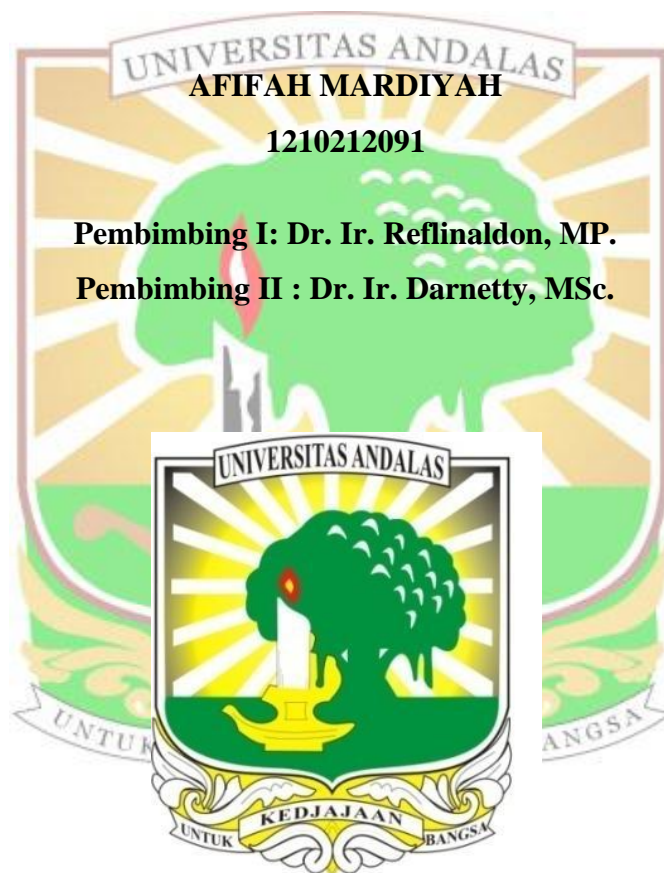


**PENGUJIAN BERBAGAI SUBSTRAT LIMBAH PERTANIAN  
SEBAGAI MEDIA PERBANYAKAN CENDAWAN *Metarhizium*  
sp. DAN PATOGENISITASNYA TERHADAP *Etiella zinckenella*  
Treit (Lepidoptera : Pyralidae)**

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**FAKULTAS PERTANIAN  
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PADANG**

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# **PENGUJIAN BERBAGAI SUBSTRAT LIMBAH PERTANIAN SEBAGAI MEDIA PERBANYAKAN CENDAWAN *Metarhizium* sp. DAN PATOGENISITASNYA TERHADAP *Etiella zinckenella* Treit (Lepidoptera : Pyralidae)**

## **ABSTRAK**

*Metarhizium* sp. merupakan salah satu cendawan yang berpotensi untuk dikembangkan sebagai agen hayati. Penelitian telah dilaksanakan di Laboratorium Pengendalian Hayati Jurusan Hama dan Penyakit Tumbuhan Fakultas Pertanian Unand dari bulan Januari sampai April 2017. Penelitian bertujuan mendapatkan substrat yang terbaik untuk perbanyak cendawan *Metarhizium* sp. dengan patogenisitas tertinggi terhadap *Etiella zinckenella*. Metode yang digunakan adalah Rancangan Acak Lengkap (RAL) dengan 4 perlakuan dan 4 ulangan. Perlakuan adalah jenis substrat sebagai media perbanyak *Metarhizium* sp. yaitu beras, kulit durian, tongkol jagung, dan kulit kakao dengan kerapatan konidia  $10^8$  konidia/ml. Parameter yang diamati adalah kerapatan konidia, daya kecambah konidia, mortalitas larva, persentase pupa terbentuk dan persentase imago terbentuk. Data dianalisis dengan sidik ragam dan dilanjutkan dengan uji LSD (*Least Significant Different*) pada taraf 5%. Hasil penelitian menunjukkan bahwa kulit kakao merupakan substrat terbaik untuk pertumbuhan cendawan *Metarhizium* sp. dengan kerapatan konidia sebesar  $0,75 \times 10^8$  konidia/gram, daya kecambah 84,25%, mortalitas larva *E. zinckenella* 85%, persentase pupa terbentuk normal 13% abnormal 2,5%, dan persentase imago terbentuk 10%.

Kata Kunci: *Metarhizium* sp. , konidia, substrat, mortalitas



**TEST OF VARIOUS AGRICULTURAL WASTE SUBSTRATES AS MEDIA FOR PROPAGATION FUNGUS *Metarhizium* sp. AND IT'S PATHOGENICITY AGAINST *Etiella zinckenella* Treit (Lepidoptera: Pyralidae)**

**ABSTRACT**

*Metarhizium* sp. is one of the potential fungi as biocontrol agent. The research was conducted in the laboratory of Biological Control, Department of Plant Pests Diseases, Faculty of Agriculture, Andalas University from January to April 2017. This research aimed to get the best substrate for propagation of *Metarhizium* sp. with the highest pathogenicity against *Etiella zinckenella*. The experiment design used in the research was Randomized Completely Design (RCD) by 4 treatments and 4 replications. The treatments were several types of substrates for propagation of a *Metarhizium* sp i.e. rice, durian skin, corn cobs, and cocoa skin. Parameters measured were the number of conidia, the conidia germination, the larvae mortality, and the percentage of pupae and imago formed. Data were analyzed by using LSD (*Least Significant Different*) at 5% level. The results showed that cocoa skin was the best substrate for the growth of the fungus *Metarhizium* sp. with the conidia density ( $0.75 \times 10^8$  conidia / gram), the conidia germination (84.25%), the mortality of *E. zinckenella* larvae (85%), the percentage of normal pupae (13%), the percentage of abnormal pupae (2.5%), and the percentage of imago formed (10%) of.

Keywords: Conidia, *Metarhizium* sp, Mortality, Substrates

