

## **Intisari**

*Lepidiota stigma* merupakan salah satu hama yang berpotensi menurunkan produksi tebu. Salah satu upaya untuk mengendalikan hama tersebut adalah memanfaatkan agens pengendalian hayati berupa jamur patogen serangga. Penelitian ini bertujuan untuk mengetahui pengaruh perlakuan kombinasi jamur patogen serangga dan jamur mikoriza arbuskular untuk mengatasi serangan larva *L. stigma* dan meningkatkan pertumbuhan bibit tebu. Penelitian ini dilakukan di Laboratorium Teknologi Pengendalian, Departemen Hama dan Penyakit Tumbuhan, Fakultas Pertanian, Universitas Gadjah Mada, Yogyakarta. Parameter yang digunakan adalah kerapatan spora *Metarhizium anisopliae*, tinggi tanaman, jumlah daun, panjang akar, bobot akar, volume akar, dan infeksi jamur mikoriza arbuskular pada akar bibit tebu. Hasil yang diperoleh tidak terdapat beda nyata antar perlakuan pada masing-masing parameter pengamatan. Hasil penelitian ini menunjukkan bahwa perlakuan kombinasi antara jamur mikoriza arbuskular dan *M. anisopliae* belum mampu mengatasi serangan larva *L. stigma* dan belum dapat meningkatkan pertumbuhan bibit tebu setelah adanya serangan larva *L. stigma*.

Kata kunci : jamur mikoriza arbuskular, jamur patogen serangga, kombinasi, *Lepidiota stigma*, tebu

## Abstract

*Lepidiota stigma* is one of the pests that has the potential to reduce sugarcane production. One effort to control this pest is the use of biological control agents in the form of entomopathogenic fungi. The purpose of this research was to determine the effect of combination treatment of entomopathogenic fungi and arbuscular mycorrhizal fungi to overcome the attack of *L. stigma* larvae and increase the growth of sugarcane seedlings. This research was conducted in Control Technology Laboratory, Department of Crop Protection, Faculty of Agriculture, Gadjah Mada University, Yogyakarta. Parameter observed were spore density of *Metarhizium anisopliae*, plant height, number of leaves, root length, root weight, root volume, and arbuscular mycorrhizal fungi infection in the roots of sugarcane seedlings. The results showed that there were no significant different between treatments in each observation parameter. The results of this study indicated that the combination treatment of arbuscular mycorrhizal fungi and *M. anisopliae* had not been able to overcome the attack of *L. stigma* larvae and has not been able to increase the growth of sugarcane seedlings after the attack of *L. stigma* larvae.

Keywords : arbuscular mycorrhizal fungi, entomopathogenic fungi, combination, *Lepidiota stigma*, sugarcane