

ABSTRAK

EKSPLORASI DAN KARAKTERISASI JAMUR ENDOFIT PADA TANAMAN TEBU (*Saccharum officinarum* L.) YANG BERPOTENSI SEBAGAI ENTOMOPATOGEN

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Penelitian ini bertujuan untuk mengeksplorasi dan mengkarakterisasi jamur endofit dari tanaman tebu (*Saccharum officinarum* L.) yang berpotensi sebagai entomopatogen. Penelitian dilakukan dari Februari hingga Agustus 2024 di Laboratorium Bioteknologi Pertanian, Fakultas Pertanian, Universitas Lampung dan PT Gunung Madu Plantations, Lampung Tengah. Sebanyak 46 isolat jamur endofit berhasil diperoleh, dengan 13 isolat menunjukkan kemampuan melarutkan fosfat. Dari total isolat yang diperoleh, 29 isolat bersifat hipovirulen, sementara 17 isolat lainnya bersifat virulen. Hasil uji patogenesis menggunakan *Tenebrio molitor* sebagai serangga indikator menunjukkan bahwa isolat G3D2.5 (*Beauveria* sp.) memiliki tingkat mortalitas tertinggi (100%), diikuti oleh isolat G3D1.1 (*Trichoderma* sp.) dan G3D3.2 (*Penicillium* sp.) menyebabkan mortalitas sebesar 30%. Ketiga isolat ini terpilih sebagai kandidat potensial untuk dikembangkan sebagai agen pengendali hayati hama pada tanaman tebu.

Kata kunci: Entomopatogen, jamur endofit, pengendalian hayati, tebu, *Tenebrio molitor*

ABSTRACT

EXPLORATION AND CHARACTERIZATION OF ENDOPHYTIC FUNGI IN SUGARCANE (*Saccharum officinarum* L.) WITH POTENTIAL AS ENTOMOPATHOGENS

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This study aims to explore and characterize endophytic fungi from Sugarcane (*Saccharum officinarum* L.) with potential as entomopathogens. The research was conducted from February to August 2024 at the Agricultural Biotechnology Laboratory, Faculty of Agriculture, University of Lampung, and PT Gunung Madu Plantations, Central Lampung. A total of 46 endophytic fungal isolates were successfully obtained, of which 13 showed phosphate-solubilizing ability. Among the total isolates, 29 were classified as hypovirulent, while the remaining 17 were virulent. Pathogenicity tests using *Tenebrio molitor* as the indicator insect showed that isolate G3D2.5 (*Beauveria* sp.) exhibited the highest mortality rate (100%), followed by isolate G3D1.1 (*Trichoderma* sp.) and G3D3.2 (*Penicillium* sp.), each causing 30% mortality. These three isolates were selected as potential candidates for development as biological control agents against pests in sugarcane cultivation.

Keywords: Entomopathogen, endophytic fungi, biological control, sugarcane, *Tenebrio molitor*