KARAKTERISASI FUNGI *Trichoderma* sp. SEBAGAI AGEN PENGENDALI HAYATI TERHADAP PENYAKIT JAMUR AKAR PUTIH

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INTISARI

Jamur akar putih merupakan penyakit pada tanaman karet yang disebabkan oleh fungi tular tanah *Ridigoporus microporus*. Alternatif pengendalian penyakit jamur akar putih dapat dilakukan dengan memanfaatkan agen antagonis. *Trichoderma* merupakan fungi antagonis yang dikembangkan sebagai agen pengendali penyakit jamur akar putih. Kemampuan spesies *Trichoderma* sp. dalam mengendalikan fungi patogen berbeda-beda. Isolat *Trichoderma* sp. Y1 asal Pusat Antar Universitas (PAU) UGM belum diketahui sebagai agens pengendali hayati. Tujuan penelitian ini mengetahui kemampuan antagonistik *Trichoderma* sp. Y1 terhadap fungi patogen *Rigidoporus microporus* dan memperoleh karakter molekular *Trichoderma* sp. Y1. Penelitian mencangkup aspek identifikasi morfologis, dan molekular, serta uji aktivitas antagonis *Trichoderma* sp. Y1 terhadap *R. microporus* secara *in vitro*. Penelitian dilakukan di Laboratorium Bioteknologi PAU UGM. Hasil penelitian menunjukan bahwa *Trichoderma* sp. Y1 memiliki kemampuan pengendalian fungi patogen *R. microporus* JB-1 dengan presentase hambatan 86,15% dengan mekanisme kompetisi dan mikoparasitik dan 18S, ITS-1, 5,8S, ITS-2, 28S pada *Trichoderma* sp. Y1 mampu mengidentifikasi sebagai *Trichoderma harzianum*. Produk sekuensing nukleotida daerah ITS pada *Trichoderma* sp.Y1 berhasil teridentifikasi dengan panjang 667 bp.

Kata kunci: *Trichoderma* sp., *antagonistik, Rigidoporus microporus, daerah ITS.*

CHARACTERIZATION OF FUNGI *Trichoderma* sp. AS BIOLOGICAL CONTROL AGENT AGAINST WHITE ROOT DISEASE

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ABSTRACT

White root disease is a plant disease in the rubber caused by soil borne fungi *Ridigoporus microporus.* Alternative white root fungus disease control by can be done using antagonist agents. Antagonistic fungi *Trichoderma* is being developed as a disease control agent of white root fungus. The ability of each species of *Trichoderma* sp. in controlling the pathogenic fungi vary. Isolates of *Trichoderma* sp. Y1 Pusat Antar Universitas (PAU) UGM is not known as a biological agent. The purpose of this study were to determine the ability of antagonistic *Trichoderma* sp. Y1 against pathogenic fungi *R. microporus* and obtain molecular character of *Trichoderma* sp. Y1. The study covers aspects of identification of morphological and molecular, as well as the test antagonist activity *Tichoderma* sp. against *R. microporus* in vitro. This study was conducted at the Laboratory of Biotechnology PAU UGM. The results of the study showed that *Trichoderma* sp. Y1 had the ability to control pathogenic fungi *R. microporus* JB-1 with a percentage of 86.15% with a mechanism competition and mycoparasites, 18S, ITS-1, 5,8S, ITS-2, 28S region on *Trichoderma* sp. Y1 was able to identify as *Trichoderma harzianum*. Nucleotide sequencing products on *Trichoderma* sp.Y1 ITS regions were identified with a length of 667 bp.

Keyword: *Trichoderma* sp., *antagonistic, Rigidoporus microporus, ITS region*