

ABSTRACT

EFFECTIVENESS TEST OF *Trichoderma* sp. AGAINST *Fusarium* *bubalinum*, THE CAUSIVE AGENT OF RICE SHEATH ROT DISEASE

By

Aesah

Fusarium bubalinum is one of the primary pathogens causing rice sheath rot disease, which leads to symptoms such as reddish-brown necrosis, rotting of the leaf sheaths, and in severe cases, unfilled grains and failure of the panicles to emerge. The fungus *Trichoderma* sp. has the potential to be utilized as a biological control agent to manage this pathogen. This study aimed to determine the effect of temperature on the growth of *Trichoderma* sp. and to evaluate its ability to inhibit the growth of *Fusarium bubalinum*. The research consisted of two main activities: testing the growth of *Trichoderma* sp. across various temperature levels and assessing the antagonistic activity of *Trichoderma* sp. against the growth of *F. bubalinum*. The results demonstrated that *Trichoderma* sp. grew optimally at 30°C. Furthermore, *Trichoderma* sp. significantly inhibited the growth of *F. bubalinum* by up to 88.69% using the dual culture method and 60.60% using the double dish system method.

Keywords: antagonism, *Fusarium bubalinum*, rice sheath rot, and *Trichoderma* sp.

ABSTRAK

UJI EFEKTIVITAS *Trichoderma* sp. TERHADAP *Fusarium bubalinum* PENYEBAB PENYAKIT BUSUK PELEPAH PADI

Oleh

Aesah

Fusarium bubalinum merupakan salah satu patogen utama penyakit busuk pelepah padi yang menyebabkan gejala nekrosis berwarna coklat kemerahan, pelepah daun membusuk, pada gejala parah dapat menyebabkan malai tidak bisa terbuka dan kosong. Jamur *Trichoderma* sp. berpotensi dapat digunakan sebagai agen hayati dalam pengendaliannya. Penelitian ini bertujuan untuk mengetahui pengaruh suhu terhadap pertumbuhan *Trichoderma* sp., dan kemampuan *Trichoderma* sp. dalam menghambat pertumbuhan *F. bubalinum*, patogen penyebab busuk pelepah padi. Penelitian ini terdiri dari dua kegiatan yaitu uji beberapa tingkat suhu terhadap pertumbuhan *Trichoderma* sp. dan menguji antagonisme *Trichoderma* sp. terhadap pertumbuhan *F. bubalinum*. Hasil penelitian menunjukkan bahwa *Trichoderma* sp. tumbuh optimal pada suhu 30°C. serta *Trichoderma* sp. dapat menghambat pertumbuhan *F. bubalinum* sampai dengan 88,69% pada metode *dual culture* dan 60,60% dengan metode *double dish system*.

Kata Kunci: antagonisme, busuk pelepah padi, *Fusarium bubalinum*, dan *Trichoderma* sp.