ABSTRAK

PENGARUH MOLASE TERHADAP AKTIVITAS ANTAGONISTIK *Trichoderma* sp. DALAM MENGENDALIKAN *Fusarium* sp. SECARA *IN VITRO*

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Fusarium sp. merupakan patogen tular tanah yang dapat menyebabkan berbagai penyakit tanaman. Salah satu alternatif pengendalian yang ramah lingkungan adalah menggunakan jamur antagonis *Trichoderma* sp. Penambahan molase sebagai sumber karbon diduga dapat mempengaruhi pertumbuhan jamur dan aktivitas antagonistiknya. Penelitian ini bertujuan untuk mengetahui pengaruh molase terhadap pertumbuhan *Trichoderma* sp. dan *Fusarium* sp., serta pengaruh beberapa konsentrasi molase terhadap kemampuan antagonistik *Trichoderma* sp. dalam menghambat *Fusarium* sp. secara *in vitro*. Penelitian dilakukan di laboratorium menggunakan dua percobaan, yaitu (1) pengaruh molase terhadap pertumbuhan *Trichoderma* sp. dan *Fusarium* sp., serta (2) pengaruh kombinasi konsentrasi molase (0–5%) dan *Trichoderma* sp. terhadap pertumbuhan *Fusarium* sp. Parameter yang diamati meliputi diameter koloni jamur dan persentase daya hambat *Trichoderma* sp. terhadap *Fusarium* sp. Hasil penelitian menunjukkan bahwa penambahan molase 3% tidak berpengaruh nyata terhadap pertumbuhan *Trichoderma* sp., namun cenderung menekan pertumbuhan *Fusarium* sp. Selain itu, variasi konsentrasi molase tidak memberikan pengaruh nyata terhadap daya hambat *Trichoderma* sp. terhadap *Fusarium* sp. Secara umum, molase tidak meningkatkan aktivitas antagonistik *Trichoderma* sp. terhadap *Fusarium* sp.

Kata kunci : antagonisme, *Fusarium* sp., molase, pengendalian hayati, *Trichoderma* sp.

ABSTRACT

EFFECT OF MOLASSES ON THE ANTAGONISTIC ACTIVITY OF *Trichoderma* sp. IN CONTROLLING *Fusarium* sp. *IN VITRO*

By

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Fusarium sp. is a soil-borne pathogen that can cause various diseases in plants. One environmentally friendly control alternative is the use of antagonistic fungi such as *Trichoderma* sp. The addition of molasses as a carbon source is suspected to influence fungal growth and its antagonistic activity. This study aimed to determine the effect of molasses on the growth of *Trichoderma* sp. and *Fusarium* sp., as well as the effect of several molasses concentrations on the antagonistic ability of *Trichoderma* sp. in inhibiting *Fusarium* sp. in vitro. The study was conducted in the laboratory through two experiments: (1) the effect of molasses on the growth of *Trichoderma* sp. and *Fusarium* sp., and (2) the effect of the combination of molasses concentrations (0–5%) and *Trichoderma* sp. on the growth of *Fusarium* sp. The observed parameters included fungal colony diameter and the percentage of inhibition of *Trichoderma* sp. against *Fusarium* sp. The results showed that the addition of 3% molasses had no significant effect on the growth of *Trichoderma* sp., but tended to suppress the growth of *Fusarium* sp. Furthermore, variations in molasses concentration did not significantly affect the inhibitory ability of *Trichoderma* sp. against *Fusarium* sp.

Keywords : antagonism, biological control, *Fusarium* sp., molasses, *Trichoderma* sp.