UJI ANTAGONIS VARIASI KONSENTRASI *Trichoderma* sp. YANG DIISOLASI DARI TANAH PERKEBUNAN TOMAT TERHADAP *Fusarium* sp.

Oleh

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ABSTRAK

Produktivitas buah tomat di Provinsi Bali mengalami penurunan yang disebabkan oleh penyakit tanaman layu *fusarium* yang disebabkan oleh cendawan *Fusarium* sp. yang dapat mengakibatkan layu di daerah akar pada suatu tanaman sehingga mengakibatkan gagal panen dan turunnya angka produksi. Penelitian ini bertujuan untuk mengetahui cendawan apa saja yang diisolasi dari sampel tanah di 3 lokasi berbeda (Kintamani, Baturiti, Pancasari) sehingga mendapatkan cendawan *Trichoderma* sp. yang diisolasi dari sampel tanah yang akan digunakan untuk melihat persentase zona hambat terhadap cendawan *Fusarium* sp. penyebab layu *fusarium* pada tanaman tomat. Penelitian ini adalah penelitian eksperimen sungguhan (*true experimental*) menggunakan rancangan acak lengkap (RAL) dengan 6 perlakuan (konsentrasi *Trichoderma* sp. 0%,10%,20%,40%,60% dan 80%) yang dilakukan uji antagonis cendawan *Trichoderma* sp. yang diperoleh dari tanah Kintamani terhadap cendawan *Fusarium* sp. Sampel dalam penelitian ini adalah cendawan *Trichoderma* sp. yang diisolasi dari lokasi tanah yang berbeda. Penelitian ini dianalisis menggunakan ANOVA *One Way* yang dilanjutkan dengan uji Beda Nyata Terkecil (BNT) pada taraf signifikansi 5%. Hasil penelitian ini menunjukkan bahwa aplikasi variasi konsentrasi cendawan *Trichoderma* sp. terhadap cendawan *Fusarium* sp. menimbulkan perbedaan dari persentase zona hambat dengan rerata persentase zona hambat pada konsentrasi 0%,10%,20%,40%,60% dan 80% masing-masing adalah 0%, 51,57%, 65,20%, 72,40%, 75,80% dan 78,80%. Berdasarkan hasil penelitian tersebut, variasi konsentrasi cendawan *Trichoderma* sp. mengakibatkan perbedaan persentase zona hambat terhadap cendawan *Fusarium* sp. dimulai dari konsentrasi 10% sudah efektif digunakan untuk menanggulangi penyakit yang disebabkan oleh cendawan *Fusarium* sp.

Kata Kunci: *Trichoderma sp., Fusarium sp. layu fusarium, zona hambat.*

ANTAGONIST TEST OF VARIATION OF CONCENTRATION OF *Trichoderma* sp. ISOLATED FROM TOMATO PLANTATION SOIL AGAINST *Fusarium* sp.

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ABSTRACT

Tomato productivity in Bali Province has decreased due to *Fusarium* Wilt plant disease caused by *Fusarium* sp. fungus which can cause wilting in the root area of a plant resulting in crop failure and decreased production figures. This study aims to determine what fungi are isolated from soil samples in 3 different locations (Kintamani, Baturiti, Pancasari) so as to obtain *Trichoderma* sp. fungi isolated from soil samples that will be used to see the percentage of inhibition zones against *fusarium* sp. fungi causing *fusarium* wilt in tomato plants. This study is a *true experimental* study using a completely randomized design (CRD) with 6 treatments (*Trichoderma* sp. concentration 0%, 10%, 20%, 40%, 60% and 80%) which carried out antagonistic tests of *Trichoderma* sp. fungi obtained from Kintamani soil against *Fusarium* sp. fungi. The sample in this study was *Trichoderma* sp. fungi isolated from different soil locations. This study was analyzed using *One Way* ANOVA followed by the Least Significant Difference (LSD) test at a significance level of 5%. The results of this study indicate that the application of variations in the concentration of *Trichoderma* sp. fungi against *Fusarium* sp. fungi causes differences in the percentage of inhibition zones with the average percentage of inhibition zones at concentrations of 0%, 10%, 20%, 40%, 60% and 80% respectively being 0%, 51.57%, 65.20%, 72.40%, 75.80% and 78.80%. Based on the results of the study, variations in the concentration of *Trichoderma* sp. fungi cause differences in the percentage of inhibition zones against *Fusarium* sp. fungi starting from a concentration of 40% is already effective for treating diseases caused by *Fusarium* sp. fungi.

Keywords: *Trichoderma sp., Fusarium sp., Fusarium wilt, inhibition zone.*