EFEKTIVITAS JAMUR ANTAGONIS *Gliocladium* sp. DAN *Trichoderma harzianum* UNTUK MENGENDALIKAN *Colletotrichum* spp. PENYEBAB PENYAKIT ANTRAKNOSA PADA BUAH CABAI MERAH (*Capsicum annum*)

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ABSTRAK

Produktivitas buah cabai merah baik secara kualitas maupun kuantitas diantaranya diganggu serangan penyakit antraknosa yang disebabkan oleh patogen *Colletotrichum* spp. Pengendalian penyakit yang umum dilakukan yaitu menggunakan pestisida yang dapat menyebabkan turunnya kualitas tanah. Penelitian ini bertujuan untuk menentukan jenis jamur antagonis dan dosis yang paling efektif dalam menghambat pertumbuhan pathogen *Colletotrichum* spp. Penelitian dilaksanakan secara in vitro dan in vivo di Laboratorium Pengamatan Hama Dan Penyakit Tanaman Hortikultura Dan Tanaman Pangan Daerah Istimewa Yogyakarta dan Kebun Percobaan Fakultas Pertanian UPNVYK pada bulan Januari sampai Maret 2019. Penelitian disusun dalam Rancangan Acak Kelompok Lengkap (RAKL). Pada tahap in vitro dilakukan uji antagonis dengan metode langsung. Pada tahap in vivo dilakukan aplikasi dengan 7 perlakuan yaitu Kontrol, *Gliocladium* sp. (150 mL/tanaman, 250 mL/tanaman dan 350 mL/tanaman) dan *T. harzianum* (150 mL/tanaman, 250 mL/tanaman dan 350 mL/tanaman). Hasil penelitian menunjukan bahwa persentase peghambatan pada uji antagonisme jamur *T. harzianum* terhadap *Colletotrichum* spp. Sebesar 55%, sedangan *Gliocladium* sp. terhadap *Colletotrichum* spp. Sebesar 70.33%. Rerata intensitas serangan pada 11 HSI dan 18 HSI, kontrol lebih tinggi dibandingkan dengan *Gliocladium* sp. 350 mL/tanaman, *T. harzianum* 350 mL/tanaman dan *T. harzianum* 250 mL/tanaman. Rerata intensitas serangan pada 25 HSI kontrol lebih tinggi dibandingkan dengan *Gliocladium* sp. 250 mL/tanaman, *T. harzianum* 150 mL/ tanaman, *T. harzianum* 250 mL/tanaman dan *T. harzianum* 350 mL/tanaman. Rerata intensitas serangan pada 32 HSI, kontrol lebih tinggi dibandingkan dengan *Gliocladium* sp. 350 mL/tanaman, *T. harzianum* 250 mL/tanaman dan *T. harzianum* 350 mL/tanaman. Hasil Penelitian Menunjukkan bahwa dosis yang paling efisien untuk mengendalikan penyakit antraknosa adalah dengan perlakuan *T. Harzianum* 250 mL/tanaman dan *Gliocladium* sp. 350 mL/tanaman.

Kata Kunci : Cabai, Antraknosa, *Gliocladium, Trichoderma, Colletotrichum.*

EFFECTIVENESS OF ANTAGONISTIC FUNGI *Gliocladium* sp. AND *Trichoderma harzianum.* TO CONTROL *Colletotrichum* spp, THE PATHOGEN OF ANTHRACNOSE DISEASE IN RED CHILLI *(Capsicum annum)*

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ABSTRACT

The productivity of red chili in terms of both quality and quantity is supresed the attacks of anthracnose disease caused by *Colletotrichum*. Disease control that is commonly done is using pesticides that can reduce soil quality. THSI study aims was to determine the type of antagonistic fungi and the most effective dose in inhibiting the growth of the *Colletotrichum*. The study was conducted in vitro and in vivo at the Observation Laboratory of Pests and Diseases of Horticultural and Food Crops in the Special Region of Yogyakarta in January to March 2019 and in Experimental station of the Faculty of Agriculture UPNVYK. The research was arranged in a Complete Randomized Block Design (RCBD). At the in vitro stage, antagonistic tests were performed using the direct method. At the in vivo stage, experiment was carried out with 7 treatments: Control, *Gliocladium* sp (150 mL/plant, 250 mL/plant and 350 mL/plant) and *T. harzianum* (150 mL/plant, 250 mL/plant and 350 mL/plant). The results showed that the percentage of inhibition of *T. harzianum* against *Colletotrichum* sp. was 55% while *Gliocladium* sp. was 70.33%. The mean of disease intensity at 11 DAI and 18 DAI, the control is higher than *Gliocladium* sp. 350 mL/plant, *T. harzianum* 350 mL/plant and *T. harzianum* 250 mL/plant. The mean of disease intensity at 25 DAI control was higher than *Gliocladium* sp. 250 mL/plant, *T. harzianum* 150 mL/plant, *T. harzianum* 250 mL/plant and *T. harzianum* 350 mL/plant. The mean of disease intensity at 32 DAI, the control was higher than *Gliocladium* sp. 250 mL/plant, *T. harzianum* 150 mL/plant, *T. harzianum* 250 mL/plant and *T. harzianum* 350 mL/plant. The most efficient dose to control anthracnose disease was 250 mL/plant *T. Harzianum* treatment or 350 mL/plant *Gliocladium* sp, treatment.

Keywords: Chilli, Anthracnose, *Gliocladium, Trichoderma, Colletotrichum.*