

## ABSTRAK

Nabilla Adhelia Cahyaning Putri. 24020121130056. **Isolasi dan Uji Potensi Jamur Antagonis Asal Rizosfer Tanaman Kentang Dalam Menghambat Pertumbuhan *Colletotrichum sp.* *In Vitro*.** Di bawah bimbingan Susiana Purwantisari dan Siti Nur Jannah.

Kentang (*Solanum tuberosum* L.) merupakan komoditas hortikultura yang mempunyai peran penting bagi perekonomian Indonesia. Konsumsi kentang di Indonesia cukup tinggi, namun produktivitasnya terancam oleh organisme patogen seperti jamur. Salah satunya adalah *Colletotrichum sp.* yang merupakan patogen tular tanah (*soil-borne*). Jamur antagonis asal rizosfer berpeluang tinggi mengendalikan *Colletotrichum sp.* Penelitian dilakukan dengan survey lokasi, isolasi jamur antagonis asal tanah rizosfer tanaman kentang sehat, isolasi jamur patogen dari daun dan batang tanaman kentang yang bergejala, identifikasi jamur antagonis dan patogen yang berhasil diisolasi, uji patogenisitas *Colletotrichum sp.* dan uji antagonisme menggunakan *dual culture in vitro*. Uji antagonis jamur asal rizosfer tanaman kentang terhadap *Colletotrichum sp.* menggunakan Rancangan Acak Lengkap (RAL) kemudian dianalisis variansnya menggunakan uji ANOVA 5% dan Uji Lanjut Duncan. Penelitian ini dihasilkan isolat jamur asal rizosfer tanaman kentang yang bersifat antagonis terhadap patogen *Colletotrichum sp.* Genus jamur yang berhasil diisolasi adalah *Trichoderma sp.*, *Aspergillus sp.*, *Penicillium sp.*, dan *Gliocladium sp.* Hasil uji antagonisme *in vitro* menunjukkan bahwa persentase penghambatan tertinggi dimiliki oleh *Trichoderma sp.2* (79.64%) diikuti oleh *Gliocladium sp.* (77.38%) dan *Trichoderma sp.1* (76.19%), kemudian *Aspergillus sp.2* (64.29%), *Penicillium sp.1* (45.60%) dan *Aspergillus sp.1* (45.24%). Persentase terendah adalah *Penicillium sp.2* (35.71%). Seluruh isolat menunjukkan kemampuan kompetisi. Isolat *Penicillium sp.1*, *Penicillium sp.2*, dan *Aspergillus sp.2* menunjukkan kemampuan antibiosis. Sedangkan isolat *Trichoderma sp.1*, *Trichoderma sp.2*, dan *Gliocladium sp.* menunjukkan kemampuan parasitisme.

Kata kunci: *Colletotrichum sp.*, Jamur Rizosfer, Tanaman Kentang (*Solanum tuberosum* L.), *Dual Culture Methode*.

## ABSTRACT

Nabilla Adhelia Cahyaning Putri. 24020121130056. **Isolation and Potential Test of Antagonistic Fungi from Potato Rhizosphere to Inhibit *Colletotrichum sp.* *In Vitro*.** Di bawah bimbingan Susiana Purwantisari dan Siti Nur Jannah.

Potato (*Solanum tuberosum* L.) is a horticultural commodity that plays an important role in the Indonesian economy. Potato consumption in Indonesia is quite high, but its productivity is threatened by pathogenic organisms such as fungi. One of them is *Colletotrichum sp.* which is a soil-borne pathogen. Rhizosphere-derived antagonistic fungi have a high potential to control *Colletotrichum sp.* The study was conducted by site surveys, isolation of antagonistic fungi from the rhizosphere soil of healthy potato plants, isolation of pathogenic fungi from the leaves and stems of symptomatic potato plants, identification of antagonistic and pathogenic fungi that were successfully isolated, pathogenicity test of *Colletotrichum sp.* and antagonism test using dual culture in vitro. The antagonistic test of potato rhizosphere-derived fungi against *Colletotrichum sp.* used a Completely Randomized Design (CRD) and then analyzed the variance using a 5% ANOVA test and Duncan's Advanced Test. This study produced isolates of fungi from the rhizosphere of potato plants that are antagonistic to the pathogen *Colletotrichum sp.* The fungal genera that were successfully isolated were *Trichoderma sp.*, *Aspergillus sp.*, *Penicillium sp.*, and *Gliocladium sp.* The results of the in vitro antagonism test showed that the highest percentage of inhibition was possessed by *Trichoderma sp.2* (79.64%), followed by *Gliocladium sp.* (77.38%) and *Trichoderma sp.1* (76.19%), then *Aspergillus sp.2* (64.29%), *Penicillium sp.1* (45.60%) and *Aspergillus sp.1* (45.24%). The lowest percentage was *Penicillium sp.2* (35.71%). All isolates showed competitive ability. Isolates of *Penicillium sp.1*, *Penicillium sp.2*, and *Aspergillus sp.2* showed antibiosis ability. Meanwhile, isolates of *Trichoderma sp.1*, *Trichoderma sp.2*, and *Gliocladium sp.* showed parasitism ability.

Key Words: *Colletotrichum sp*, *Rhizosphere Fungi*, *Potato (Solanum tuberosum L.)*, *Dual Culture Method*