PENGENDALIAN PENYAKIT LAYU BAKTERI *(Ralstonia solanacearum)* PADA TANAMAN TOMAT *(Solanum lycopersicum* L.*)* DENGAN APLIKASI *Gliocladium* sp. DAN PUPUK HAYATI

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ABSTRAK

Serangan *Ralstonia solanacearum* pada tanaman tomat dapat menurunkan produktivitas tomat. Tujuan penelitian ini yaitu mengetahui kemampuan dari *Gliocladium* sp. dan pupuk hayati untuk menekan serangan *R. solanacerum* pada tanaman tomat. Penelitian ini dilaksanakan pada bulan Juli 2020 sampai September 2020 di LPHPT Pandak, Bantul. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) satu faktor tambahan (kontrol). Perlakuan yang diujikan yaitu : K1 = Kontrol Positif (*Ralstonia solanacearum*), K2 = Kontrol negatif (tanpa inokulum, hanya media tanam), K3 = *Gliocladium* sp. 10g/ *polybag* , K4 = Pupuk Hayati 10g/ *polybag*, K5 = *Gliocladium* sp. 10g/ *polybag* + Pupuk Hayati 10g/ *polybag*. Data dianalisis keragamannya menggunakan Sidik Ragam atau *Analysis of Variance* (ANOVA) pada taraf α = 5%, apabila ada beda nyata antar perlakuan maka dilanjutkan menggunakan Uji Jarak Berganda Duncan (DMRT) pada taraf 5%. Hasil penelitian menunjukkan bahwa pemberian pupuk hayati dan *Gliocladium* sp. berpengaruh nyata meningkatkan tinggi tanaman, menambah bobot kering tanaman, meningkatkan volume akar, menekan serta menurunkan insidensi dan intensitas penyakit. Perlakuan *Gliocladium* sp. 10g/ *polybag* + Pupuk Hayati 10g/ *polybag* (K5) memberikan pengaruh terbaik dalam meningkatkan tinggi tanaman (59,41 cm), meningkatkan bobot kering tanaman (5,43 gram) dan meningkatkan volume akar (3,45 mL). Perlakuan (K5) *Gliocladium* sp. 10g/ *polybag* + Pupuk Hayati paling efektif dalam menekan insidensi penyakit pada (41,7%) dan menurunkan intensitas kerusakan tanaman terserang penyakit pada (27,4%).

Kata kunci: *Gliocladium* sp., *Ralstonia solanacearum,* Layu bakteri dan Tomat.

CONTROLLING BACTERIAL WILT DISEASE (*Ralstonia solanacearum*) INTO TOMATO PLANTS (*Solanum lycopersicum* L.) WITH THE APPLICATION OF *GLIOCLADIUM* sp. AND BIOFERTILIZER

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ABSTRACT

Ralstonia solanacearum attack on tomato plants can reduce its productivity. Therefore, the objective of this study is to determine the ability of Gliocladium sp. and bio fertilizers to suppress R. solanacerum attacks on tomato plants. This research was conducted from July to September 2020 at LPHPT Pandak, Bantul. This study used a completely randomized design (CRD) with 5 treatment. The treatments tested were: K1 = Positive Control (Ralstonia solanacearum), K2 = Negative Control (without inoculum, only planting medium), K3 = Gliocladium sp. 10g/polybag, K4 = Biofertilizer 10g/polybag, K5 = Gliocladium sp. 10g/ polybag + Biofertilizer 10g/polybag. The data were analyzed for its diversity using the Analysis of Variance (ANOVA) at the level of = 5%. If there was a significant difference between treatments, it was then analyzed using Duncan's Multiple Range Test (DMRT) at the 5% level. The results showed that the application of bio fertilizers and Gliocladium sp significantly increased plant height, plant dry weight, root volume, suppressed plant disease incidence and reduced disease intensity. Treatment of Gliocladium sp. 10g/polybag + Biofertilizer 10g/polybag (K5) gave the best effect in increasing plant height (59.41 cm), increasing plant dry weight (5.43 grams) and increasing root volume (3.45 mL). Further, the application of Gliocladium sp. 10g/ polybag and bio fertilizer was the most effective in suppressing the disease incidence caused by R. solanacerum (41.7%) and reducing the severity of plant damage in (27.4%).

Keywords: Gliocladium sp., Ralstonia solanacearum, Bacterial wilt and Tomato.