

PENGARUH TRICHODERMA SP DAN MIKORIZA TERHADAP PENYAKIT DAN KUALITAS PRODUKSI TANAMAN SEMANGKA

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ABSTRAK

Semangka merupakan komoditas hortikultura utama di Indonesia, namun produksinya menurun 1,48% pada 2021 dari 420.453 ton menjadi 414.242 ton akibat serangan downy mildew, gemini virus, dan layu Fusarium. Penelitian ini bertujuan mengkaji pengaruh aplikasi *Trichoderma* sp. dan mikoriza terhadap keparahan penyakit serta kualitas hasil panen semangka. Penelitian dilaksanakan di lahan pertanian Klaten dan Laboratorium UPN “Veteran” Yogyakarta menggunakan Rancangan Acak Kelompok Lengkap (RAKL) dengan empat perlakuan dan enam ulangan, yaitu P0 (kontrol), P1 (*Trichoderma* sp.), P2 (mikoriza), dan P3 (*Trichoderma* sp. + mikoriza). Aplikasi dilakukan tiga kali, yaitu saat tanam, 14 HST, dan 28 HST. Hasil penelitian menunjukkan bahwa perlakuan tidak berpengaruh nyata terhadap insidensi dan intensitas downy mildew maupun layu Fusarium, tetapi berpengaruh nyata terhadap penyakit virus kuning. Pada parameter agronomis, perlakuan tidak berpengaruh nyata terhadap diameter batang dan bobot buah, tetapi berpengaruh nyata terhadap panjang akar, volume akar, dan tingkat kemanisan buah. Perlakuan terbaik diperoleh pada P3, dibandingkan dengan ketiga perlakuan lainnya

Kata kunci : kualitas produksi, Mikoriza, Penyakit, Semangka, *Trichoderma* sp.

**EFFECT OF TRICHODERMA SP. AND MYCORRHIZA ON DISEASE
INCIDENCE AND YIELD QUALITY OF WATERMELON (*CITRULLUS
LANATUS*)**

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ABSTRACT

Watermelon (*Citrullus lanatus*) is one of the main horticultural commodities in Indonesia; however, its production decreased by 1.48% in 2021 from 420.453 tons to 414,242 tons due to downy mildew, gemini virus, and Fusarium wilt infections. This study aimed to evaluate the effect of *Trichoderma* sp. and mycorrhiza application on disease severity and yield quality of watermelon. The research was conducted in Klaten agricultural fields and the Laboratory of UPN “Veteran” Yogyakarta using a Randomized Complete Block Design (RCBD) with four treatments and six replications, namely P0 (control), P1 (*Trichoderma* sp.), P2 (mycorrhiza), and P3 (*Trichoderma* sp. + mycorrhiza). Applications were carried out three times: at planting, 14 days after planting (DAP), and 28 DAP. The results showed that the treatments had no significant effect on the incidence and severity of downy mildew and Fusarium wilt, but significantly affected yellow virus disease. In terms of agronomic parameters, the treatment did not significantly affect stem diameter and fruit weight, but it did significantly affect root length, root volume, and fruit sweetness. The best treatment was P3, compared to the other three treatments.

Kata kunci : Agronomis, Mycorrhiza, Disaese, Watermelon, *Trichoderma* sp.,