

ABSTRAK

Tobacco mosaic virus (TMV) merupakan virus utama yang menginfeksi tanaman cabai di Indonesia. Penyakit mosaik akibat TMV menyebabkan penurunan signifikan pada produktivitas cabai, sebuah komoditas hortikultura penting di Indonesia. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) dengan sembilan perlakuan, meliputi tujuh jenis cendawan rizosfer, kontrol sakit (tanaman terinfeksi TMV), dan kontrol sehat (tanpa infeksi TMV). Variabel yang diamati meliputi periode inkubasi, intensitas dan persentase penyakit, jumlah dan bobot buah, tinggi tanaman, panjang akar, berat basah, dan berat kering tanaman. Hasil penelitian menunjukkan bahwa aplikasi cendawan rizosfer secara signifikan menurunkan intensitas dan persentase penyakit mosaik, meskipun infeksi TMV mencapai 100% pada beberapa perlakuan. *Trichoderma sp.* FRR 214 menunjukkan penekanan penyakit tertinggi (75.86%), sementara *Gliocladium sp.* FRT 122 menunjukkan persentase penyakit terendah (77.78%). Meskipun demikian, produktivitas (jumlah dan bobot buah) meningkat dibandingkan dengan kontrol sakit. Secara keseluruhan, hasil penelitian menunjukkan potensi cendawan rizosfer, terutama *Trichoderma sp.* FRR 214 dan *Gliocladium sp.* FRT 122 sebagai agen hayati yang efektif dalam mengurangi dampak negatif TMV pada tanaman cabai, diduga melalui induksi ketahanan sistemik dan peningkatan pertumbuhan tanaman.

Kata kunci : Cendawan rizosfer, *Tobacco mosaic virus*, tanaman cabai

ABSTRACT

Tobacco mosaic virus (TMV) is the main virus that infects chili plants in Indonesia. Mosaic disease caused by TMV causes a significant decrease in the productivity of chili, an important horticultural commodity in Indonesia. This study used a *Completely Randomized Design* (CRD) with nine treatments, including seven types of rhizosphere fungi, diseased controls (TMV-infected plants), and healthy controls (without TMV infection). Observed variables included the incubation period, disease intensity and percentage, number and weight of fruits, plant height, root length, fresh weight, and dry weight of plants. The results showed that the application of rhizosphere fungi significantly reduced the intensity and percentage of mosaic disease, although TMV infection reached 100% in some treatments. *Trichoderma sp.* FRR 214 showed the highest disease suppression (75.86%), while *Gliocladium sp.* FRT 122 showed the lowest disease percentage (77.78%). However, productivity (number and weight of fruits) increased compared to the diseased control. Overall, the results of this study indicate the potential of rhizosphere fungi, especially *Trichoderma sp.* FRR 214 and *Gliocladium sp.* FRT 122 as effective biological agents in reducing the negative impact of TMV on chili plants, presumably through induction of systemic resistance and increased plant growth.

Keywords: Rhizosphere fungi, *Tobacco mosaic virus*, chili plants