

ABSTRAK

RESISTENSI KECAMBAH CABAI MERAH KERITING (*Capsicum annuum* L.) TERHADAP INFEKSI *Fusarium oxysporum* DARI BENIH YANG DIINDUKSI MEDAN MAGNET 0,2 mT

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Cabai merah keriting (*Capsicum annuum* L.) mengandung capsaicin, penyebab rasa pedas sehingga banyak dimanfaatkan sebagai bahan baku makanan. Sampai saat ini produksi cabai belum dapat memenuhi permintaan pasar karena cabai rentan terhadap serangan pathogen, diantaranya serangan jamur *Fusarium oxysporum*. Perlakuan medan magnet pada benih diketahui mampu meningkatkan aktivitas enzim peroksidase dan ketebalan lignin yang penting bagi pertahanan tanaman terhadap serangan patogen. Penelitian ini bertujuan untuk mengetahui pengaruh paparan medan magnet 0,2 mT terhadap benih cabai yang kecambahnya diinfeksi *F. oxysporum* terhadap pertumbuhan tanaman cabai.

Penelitian dilaksanakan menggunakan Rancangan Acak Lengkap (RAL) dengan 6 perlakuan terdiri dari: M0F0 (kontrol), M0F60, M7F0, M7F60, M15F0, dan M15F60. M0 adalah benih tidak dipapar medan magnet, M7 benih dipapar medan magnet 7 menit 48 detik, M15 benih dipapar medan magnet 15 menit 36 detik, F0 kecambah tidak diinfeksi dan F60 kecambah diinfeksi *F. oxysporum* selama 60 menit. Setiap perlakuan diulang 5 kali. Hasil analisis ragam pada $\alpha = 5\%$ menunjukkan bahwa perlakuan berpengaruh nyata pada tinggi tanaman; berat basah dan kering tanaman berumur 7 hari setelah tanam (hst); serta kandungan klorofil a, b, dan total sebelum dan setelah berbunga. Paparan medan magnet 0,2 mT selama selama 7 menit 48 detik cenderung memberikan hasil yang lebih baik untuk meningkatkan pertumbuhan dan daya tahan tanaman cabai terhadap infeksi *F. oxysporum*.

Kata Kunci : *Fusarium oxysporum*, *Capsicum annuum* L., medan magnet

ABSTRACT

RESISTANCE OF RED CHILI (*Capsicum annuum* L.) RESISTANCE TO *Fusarium oxysporum* INFECTION FROM SEEDS INDUCED BY A MAGNETIC FIELD 0.2 mT

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Red chili (*Capsicum annuum* L.) contains capsaicin, which causes spicy taste so it is widely used as raw material of food industry. However, chili production has not been able to meet market demand because chili is susceptible to pathogen attacks, including the attack of the fungus *Fusarium oxysporum*. Magnetic field treatment on seeds is known to increase peroxidase activity and lignin thickness which is important for plant defense against pathogen attack. This study aimed to determine the effect of exposure to a 0.2 mT magnetic field on chili seeds whose sprouts were infected with *F. oxysporum* on the growth of chili plants.

The study was carried out using a completely randomized design (CRD) with 6 treatments consisting of: M0F0 (control), M0F60, M7F0, M7F60, M15F0, and M15F60. M0 seeds were not exposed to a magnetic field, M7 seeds were exposed to a magnetic field 7 minutes 48 seconds, M15 seeds were exposed to a magnetic field 15 minutes 36 seconds, F0 sprouts were not infected and F60 sprouts were infected with *F. oxysporum* for 60 minutes. Each treatment was repeated 5 times. The results of analysis of variance at $\alpha = 5\%$ showed that the treatment had a significant effect on plant height; wet and dry weight of 7 days old plants; and the content of chlorophyll a, b, and total before and after flowering. Exposure to 0.2 mT magnetic field for 7 minutes 48 seconds tended to give better results to increase the growth and resistance of chili plants to *F. oxysporum* infection.

Keywords: *Fusarium oxysporum*, *Capsicum annuum* L., magnetic field