

EFEKTIVITAS *BIOFERTILIZER*
TERHADAP PERTUMBUHAN TANAMAN
CABAI RAWIT (*Capsicum frutescens* L.) TERINFEKSI
ANTRAKNOSA DAN PERKEMBANGAN
KOLONI JAMUR *Colletotrichum* sp.

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INTISARI

Tanaman cabai merupakan komoditas hortikultura yang berperan penting dalam meningkatkan ekonomi para petani di Indonesia. Banyak petani yang diuntungkan ketika menanam cabai, namun para petani juga masih memiliki banyak kendala yang dialami pada masa budidaya cabai yaitu adanya penyakit antraknosa. *Biofertilizer* merupakan pupuk organik yang mengandung mikroorganisme hidup yang mampu menekan pertumbuhan jamur *Colletotrichum* sp. penyebab penyakit antraknosa pada tanaman cabai. Penelitian ini dilakukan untuk menganalisis respons pertumbuhan tanaman cabai rawit terhadap infeksi antraknosa dan pertumbuhan koloni *Colletotrichum* sp. pasca perlakuan *biofertilizer*, serta mengetahui tingkat efektivitas *biofertilizer* dengan dosis 10 L/Ha, 15 L/Ha, dan 20 L/Ha dalam mengendalikan antraknosa pada tanaman cabai. Pengambilan data pertumbuhan koloni *Colletotrichum* sp. dilakukan dengan 3 ulangan per perlakuan, sedangkan pengambilan data pertumbuhan tanaman cabai rawit dilakukan dengan 10 ulangan per perlakuan. Parameter yang diukur berupa pertumbuhan koloni, persentase aktivitas antifungi *biofertilizer*, tinggi tanaman, jumlah daun, waktu berbunga, kadar klorofil, insidensi penyakit, dan intensitas penyakit. Hasil penelitian menunjukkan hasil bahwa *biofertilizer* mampu menghambat pertumbuhan koloni *Colletotrichum* sp. yang ditumbuhkan dalam medium *Potato Dextrose Agar* (PDA). *Biofertilizer* memiliki persentase aktivitas antifungi kuat pada perlakuan dosis *biofertilizer* 15 L/Ha sebesar 58,25% dan 20 L/Ha sebesar 72,22%. Dosis *biofertilizer* 15 L/Ha dapat meningkatkan tinggi tanaman, jumlah daun, kadar klorofil, dan mempercepat perbungaan baik pada tanaman cabai yang terinfeksi antraknosa maupun yang tidak terinfeksi antraknosa. *Biofertilizer* dosis 15 L/Ha dan 20 L/Ha memiliki efektivitas yang baik dalam mengendalikan antraknosa karena mampu menekan nilai insidensi penyakit, intensitas penyakit, dan memiliki nilai AUDPC yang rendah.

Kata Kunci: Antraknosa, *Biofertilizer*, *Colletotrichum* sp., Respons fisiologis, Tanaman cabai

EFFECTIVENESS OF BIOFERTILIZER ON THE GROWTH OF CHILI PLANT (*Capsicum frutescens* L.) INFECTED WITH ANTRACNOSA AND THE DEVELOPMENT OF FUNGAL COLONY *Colletotrichum* sp.

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ABSTRACT

*Chili plants are horticultural commodities that play an important role in improving the economy of farmers in Indonesia. Many farmers benefit when growing chilies, but farmers also still have many obstacles experienced during the cultivation of chilies, namely the presence of anthracnose disease. Biofertilizer is an organic fertilizer containing live microorganisms that can suppress the growth of the fungus *Colletotrichum* sp. which causes anthracnose disease in chili plants. This study was conducted to analyze the growth response of cayenne pepper plants to anthracnose infection and the growth of *Colletotrichum* sp. colonies after biofertilizer treatment, as well as to determine the effectiveness of biofertilizer with doses of 10 L/Ha, 15 L/Ha, and 20 L/Ha in controlling anthracnose in chili plants. Data collection on the growth of *Colletotrichum* sp. colonies was carried out with 3 replicates per treatment, while data collection on the growth of cayenne pepper plants was carried out with 10 replicates per treatment. The parameters measured were colony growth, percentage of biofertilizer antifungal activity, plant height, number of leaves, flowering time, chlorophyll content, disease incidence, and disease intensity. The results showed that biofertilizer was able to inhibit the growth of *Colletotrichum* sp. colonies grown in Potato Dextrose Agar (PDA) medium. Biofertilizer had a percentage of strong antifungal activity in the biofertilizer dose treatment of 15 L/Ha by 58.25% and 20 L/Ha by 72.22%. Biofertilizer dose of 15 L/Ha can increase plant height, number of leaves, chlorophyll content, and accelerate inflorescence both in anthracnose-infected and non-anthracnose-infected chili plants. Biofertilizer doses of 15 L/Ha and 20 L/Ha have good effectiveness in controlling anthracnose because they can reduce the value of disease incidence, disease intensity, and have a low AUDPC value.*

*Key Words: Anthracnose, Biofertilizer, Chili plants, *Colletotrichum* sp., Physiology response*