

ABSTRACT

Muhammad Hifniy Aziziy. A.1511055. A Study on the Effects of Anthracnose Blight after the Application of Neem Leaf Solution and Local Microorganism of Banana Corm on the Growth of Red Chili (*Capsicum annum L.*) Plants. Under immediate supervision of Oktavianus LT and Yanyan Mulyaningsih.

Anthracnose is one of the main diseases commonly attack and hamper the productivity of red chili (*Capsicum annum L.*) plants. The use of plant fungicide and microorganism can reduce the percentage of anthracnose blight in red chili plants without causing any negative impact of the environment. This study was aimed at assessing the potential of neem leaf solution and local microorganism of banana corm for anthracnose control and growth improvement in red chili plants. A factorial randomized block design with two factors was used. The first factor was neem leaf solution concentration (0%, 15%, 30%, and 45%) and the second factor was local microorganism of banana corm concentration (0%, 15%, 30%, and 45%). Results showed that neem leaf solution concentration did not give significant effects on all parameters measured. Compared to control, local microorganism of banana corm concentration of 45% significantly gave higher plant height, number of leaves, number of productive branches, and weight of fruits per plant but these parameters were not different from those found in plants treated with 30% local microorganism of banana corm. Disease prevalence and morbidity rate were 0% as there was no anthracnose attack observed on plants in all treatment groups. This might be caused by the environmental factors including extremely high maximum temperature, extremely low minimum temperature, humidity level of less than 80%, and low rainfall during fruit formation period which were unfavorable for the development of *Colletotrichum sp* fungus. In addition, the level of virulence of the pathogen is thought to have decreased because in previous reserach of the red chilli plants in the same place also had been treated with plant fungicides from the neem leaf solution.

Key words: Capsicum annum, Colletotrichum, neem, banana corm

ABSTRAK

Muhammad Hifniy Aziziy. A.1511055. Studi Serangan Antraknosa pada Pertumbuhan Cabai Merah (*Capsicum annuum* L.) setelah Aplikasi Larutan Daun Mimba dan MOL Bonggol Pisang. Dibimbing oleh Oktavianus LT dan Yanyan Mulyaningsih.

Antraknosa merupakan salah satu penyakit utama yang menyerang tanaman cabai merah (*Capsicum annuum* L.) sehingga dapat menurunkan produktivitas. Penggunaan fungisida nabati dan mikroorganisme dapat mengurangi persentase serangan antraknosa pada cabai merah tanpa menimbulkan dampak negatif terhadap lingkungan. Tujuan penelitian ini yaitu untuk mengetahui potensi larutan daun mimba dan MOL bonggol pisang dengan dosis yang tepat dalam mengendalikan penyakit antraknosa serta meningkatkan pertumbuhan dan hasil pada tanaman cabai merah. Model penelitian yang digunakan yaitu Rancangan Acak Kelompok Faktorial yang terdiri atas dua faktor yaitu konsentrasi larutan daun mimba (0%, 15%, 30%, 45%) dan konsentrasi MOL bonggol pisang (0%, 15%, 30%, 45%). Hasil penelitian ini menunjukkan bahwa konsentrasi larutan daun mimba tidak memberikan pengaruh yang nyata terhadap semua peubah yang diamati. Konsentrasi larutan MOL bonggol pisang 45% berpengaruh nyata dalam meningkatkan tinggi tanaman, jumlah daun, jumlah cabang produktif dan bobot buah per tanaman dibandingkan dengan perlakuan kontrol, namun tidak berbeda nyata dibandingkan dengan konsentrasi 30%. Serangan antraknosa yang tidak terjadi pada penelitian ini diduga karena faktor lingkungan yang tidak mendukung untuk perkembangan jamur *Colletotrichum* sp. yaitu temperatur maksimum yang terlalu tinggi dan temperatur minimum yang terlalu rendah, serta kelembapan udara kurang dari 80% dan curah hujan yang rendah pada saat pembentukan buah. Selain itu, tingkat virulensi patogen diduga telah menurun karena pada penelitian periode sebelumnya terhadap tanaman cabai merah di tempat yang sama juga telah diberikan perlakuan fungisida nabati dari larutan daun mimba.

Kata kunci: *Capsicum annuum*, *Colletotrichum*, mimba, bonggol pisang

