RINGKASAN

Tinggi rendahnya produksi cabai antara lain dipengaruhi oleh serangan patogen, karena dapat merugikan dari segi kualitas maupun kuantitas cabai. Penggunaan agens hayati *Trichoderma* – mikoriza dan pemberian dosis pupuk anorganik diharapkan dapat memperbaiki kualitas dan meningkatkan hasil. Penelitian ini bertujuan untuk mengetahui pengaruh pemberian *Trichoderma* - mikoriza dan dosis pupuk anorganik secara mandiri atau gabungan terhadap penyakit, pertumbuhan, dan hasil tanaman cabai.

Penelitian dilaksanakan di kebun percobaan *exfarm* dan Laboratorium Perlindungan Tanaman Fakultas Pertanian Universitas Jenderal Soedirman Purwokerto. Penelitian dilaksanakan selama 5 bulan dari April sampai dengan Agustus 2017. Rancangan percobaan yang digunakan adalah rancangan acak kelompok faktorial yang terdiri atas 9 perlakuan dan 3 kali ulangan. Perlakuan yang dicoba meliputi dua faktor. Faktor pertama yaitu pemberian agens hayati *Trichoderma* – mikoriza dengan komposisi 0 g – 10 g, 10 g – 20 g, dan 20 g – 30 g. Faktor kedua yaitu pemberian dosis pupuk anorganik yaitu 0 %, 50 %, dan 100% (tanpa pupuk, setengah dosis anjuran, dan dosis anjuran). Variabel pengamatan meliputi masa inkubasi dan intensitas penyakit bercak daun cercospora dan mosaik virus, jumlah daun, tinggi tanaman, jumlah tunas, jumlah ranting, dan jumlah buah. Data dianalisis dengan uji F dan uji lanjut dengan *Duncan's Multiple Range Test* pada taraf kesalahan 5%.

Hasil penelitian menunjukkan bahwa pemberian agens hayati *Trichoderma* - mikoriza secara mandiri ataupun gabungan dengan pupuk anorganik tidak berpengaruh terhadap semua variabel pengamatan, tetapi pemberian dosis pupuk anorganik 100% memberikan hasil tertinggi terhadap jumlah daun, tinggi tanaman, jumlah tunas, dibandingkan pemberian dosis pupuk anorganik 50%, dengan jumlah ranting tertinggi.

SUMMARY

The production of chili was affected by pathogens, because it could decrease the quality and quantity chili. The use of Trichoderma – mycorrhyza biological agents and inorganic fertilizer can increase the growth and yield. This research aims to know the effect of Trichoderma – mycorrhyza biological agents and fertilizer inorganic doses in single or in combination on diseases, growth and yield of plants chili.

The research was carried out in the exfarm and Plant Protection Laboratory, Agriculture Faculty, Jenderal Soedirman University, Purwokerto. The research was conducted from April to July 2017. This experimental was arranged in factorial based on Randomized Block Design, consisting of 9 treatments and 3 replications. The tests treatments were two factors. The first factor is Trichoderma – mycorrhyza biological agents at composition of 0 g - 10 g, 10 g - 20 g, and 20 g - 30 g. The second factor is inorganic fertilizer doses consisting of 0 %, 50 %, and 100 % (without inorganic fertilizer, half recommended dose, and suitable recommended dose). Observed variables were incubation periods and disease intensity of cercospora leaf spot and mosaic of virus, number's leaf, plant height, number's shoots, twigs, and fruits. Data were analyzed by F test and continuoed with Duncan's Multiple Range Test at 5% error level.

The research result showed that application of Trichoderma *– mycorrhyza and biological agents in single or in combination with inorganic fertilizer could not significantly affect to all observed variables, but application of inorganic fertilizer dose of 100% gave the highest number's leaf, plant height, number's shoots, than application of inorganic fertilizer dose of 50%, with the highest of twigs.*