

Intisari

Penyakit moler yang disebabkan oleh *Fusarium acutatum* merupakan penyakit pada bawang merah yang banyak menimbulkan kerusakan dan kerugian. Tujuan dari penelitian ini adalah untuk mengetahui efektivitas aplikasi agens hayati *Trichoderma* sp. dan jamur mikoriza terhadap insidensi penyakit moler dan terhadap pertumbuhan tanaman bawang merah. Penelitian dilakukan di rumah kaca yang disusun dalam Rancangan Acak Lengkap (RAL) dengan tujuh perlakuan yaitu P1= *Trichoderma* sp. 1 minggu sebelum tanam + *F. acutatum*; P2= *Trichoderma* sp. 1 minggu setelah tanam + *F. acutatum*; P3= Mikoriza + *F. acutatum*; P4= *Trichoderma* sp. 1 minggu sebelum tanam + Mikoriza + *F. acutatum*; P5= *Trichoderma* sp. 1 minggu setelah tanam + Mikoriza + *F. acutatum*; P6= Kontrol positif (+ *F. acutatum*); P7= Kontrol negatif (- *F. acutatum*). Parameter yang diamati meliputi perkembangan tanaman, insidensi penyakit moler, dan komponen hasil. Hasil penelitian menunjukkan bahwa aplikasi tunggal maupun kombinasi antara *Trichoderma* sp. dan jamur mikoriza belum secara efektif mengendalikan penyakit moler dengan insidensi penyakit moler tertinggi pada perlakuan P3, P5 dan P6 yaitu 53,33 %. Aplikasi tunggal jamur mikoriza mampu meningkatkan volume akar tanaman (3,34 ml). Aplikasi tunggal *Trichoderma* sp. satu minggu setelah tanam mampu meningkatkan berat segar umbi (8,44 gram). Aplikasi kombinasi *Trichoderma* sp. satu minggu sebelum tanam dan jamur mikoriza dapat meningkatkan rerata jumlah daun (25,27 daun). Aplikasi kombinasi *Trichoderma* sp. baik satu minggu sebelum tanam serta satu minggu setelah tanam dan jamur mikoriza dapat meningkatkan berat segar (9,91 gram dan 9,92 gram) dan aplikasi tunggal *Trichoderma* sp. satu minggu sebelum tanam dapat meningkatkan berat kering tajuk tanaman bawang merah (0,79 gram).

Kata kunci: Bawang merah, *Fusarium acutatum*, jamur mikoriza, penyakit moler, *Trichoderma* sp.

Abstract

Moler disease caused by *Fusarium acutatum* is a disease of shallot that have caused more damage and loss. The purpose of this study was to determine the effectiveness of the application of biological agent *Trichoderma* sp. and mycorrhizal fungi on the incidence of moler disease and shallot to plant growth. The study was conducted in the greenhouse are arranged in a completely randomized design (CRD) with seven treatments, P1 = *Trichoderma* sp. 1 week before planting + *F. acutatum*; P2 = *Trichoderma* sp. 1 week after planting + *F. acutatum*; P3 = Mycorrhiza + *F. acutatum*; P4 = *Trichoderma* sp. 1 week before planting + Mycorrhiza + *F. acutatum*; P5 = *Trichoderma* sp. 1 week after planting + Mycorrhiza + *F. acutatum*; P6 = positive control (+ *F. acutatum*); P7 = negative control (- *F. acutatum*). The parameters observed were plant development, disease incidence, and yield components. The results showed that a single application or a combination of *Trichoderma* sp. and mycorrhizal fungi have not been effective in controlling the moler disease. The highest incidence of the disease in treatment P3, P5 and P6 is 53.33%. Single application of mycorrhizal fungi were able to increase the volume of plant roots (3.34 ml). Single application of *Trichoderma* sp. one week after planting can increase the fresh weight of tubers (8.44 grams). Combination of *Trichoderma* sp. one week before planting and mycorrhizal fungi can increase the average number of leaves (25.27 leaf). Combination of *Trichoderma* sp. either one week before planting, and one week after planting and mycorrhizal fungi can increase the fresh weight (9.91 grams and 9.92 grams) and a single application of *Trichoderma* sp. one week before planting could increase the shoot dry weight of shallot crop (0.79 grams).

Keywords: *Fusarium acutatum*, moler disease, mycorrhizal fungi, shallot, *Trichoderma* sp.