

INTISARI

Buah pisang menjadi produk buah terbesar yang ada di Indonesia. Namun dalam praktik budidaya, petani menghadapi tantangan terkait pengelolaan penyakit layu fusarium. Penyakit tersebut disebabkan patogen *Fusarium oxysporum* f.sp. *cubense* (Foc). Penggunaan agens hayati seperti *Bacillus* sp. dan *Trichoderma* sp. diharapkan mampu menjadi alternatif pengendalian layu fusarium. Tujuan dari penelitian ini untuk mengetahui pengaruh aplikasi *Bacillus* sp. dan *Trichoderma* sp. pada lahan pertanian dalam menekan insidensi dan intensitas penyakit, pengaruh *Bacillus* sp. dan *Trichoderma* sp. terhadap pertumbuhan tanaman serta pengaruh *Bacillus* sp. dan *Trichoderma* sp. terhadap populasi total *Fusarium* spp. dalam tanah. Perlakuan yang dilakukan adalah pengaplikasian *Bacillus* sp. isolat Tlg-4 setiap 2 minggu setelah penanaman selama 4 bulan, pengaplikasian *Trichoderma* sp. hanya diawal penanaman dan pengaplikasian *Trichoderma* sp. yang diulang setiap 1 bulan selama 4 bulan. Hingga bulan ke-4 pengamatan belum muncul gejala penyakit layu fusarium sehingga belum dapat diketahui pengaruh pengaplikasian *Bacillus* sp. dan *Trichoderma* sp. dalam menekan perkembangan penyakit layu fusarium pisang di lapangan. Pada pengamatan pertumbuhan tanaman pisang, perlakuan *Bacillus* sp. dan *Trichoderma* sp. tidak memiliki pengaruh nyata terhadap kontrol. Aplikasi *Bacillus* sp. dan *Trichoderma* sp. yang ditambahkan setiap bulan signifikan menekan populasi total *Fusarium* spp. dalam tanah.

Kata kunci: pisang, layu fusarium, *Fusarium oxysporum* f.sp. *cubense*, *Bacillus* sp.

ABSTRACT

Bananas are the largest fruit crop in Indonesia. However, in cultivation practices, farmers face challenges related to managing fusarium wilt disease. This disease is caused by the pathogen *Fusarium oxysporum* f.sp. *cubense* (Foc). The use of biological agents such as *Bacillus* sp. and *Trichoderma* sp. is expected to be an alternative control method for fusarium wilt. The objective of this study is to determine the effect of *Bacillus* sp. and *Trichoderma* sp. application in agricultural fields on reducing the incidence and intensity of the disease, the effect of *Bacillus* sp. and *Trichoderma* sp. on plant growth, and the effect of *Bacillus* sp. and *Trichoderma* sp. on the total population of *Fusarium* spp. in the soil. The treatments conducted include the application of *Bacillus* sp. isolate Tlg-4 every two weeks after planting for four months, the application of *Trichoderma* sp. only at the beginning of planting, and the application of *Trichoderma* sp. repeated every month for four months. Until the fourth month of observation, no symptoms of fusarium wilt disease had appeared, making it impossible to determine the effect of *Bacillus* sp. and *Trichoderma* sp. application on the development of fusarium wilt disease in bananas in the field. In observations of banana plant growth, *Bacillus* sp. and *Trichoderma* sp. treatments had no significant effect compared to the control. The application of *Bacillus* sp. and *Trichoderma* sp. repeated every month significantly reduced the total population of *Fusarium* spp. in the soil.

Keywords: Banana, fusarium wilt, *Fusarium oxysporum* f.sp. *cubense*, *Bacillus* sp.