

Intisari

Penyakit keriting kuning cabai merupakan salah satu kendala produksi cabai di Indonesia. Penyebab penyakit ini termasuk kedalam genus Begomovirus yang ditularkan oleh kutu kebul (*Bemisia tabaci*). Salah satu alternatif pengendalian penyakit ini menggunakan *Plant Growth Promoting Rhizobacter* (PGPR), dan ini diharapkan dapat mengurangi penggunaan pestisida yang berdampak buruk bagi lingkungan dan kesehatan. Penelitian ini bertujuan untuk mengetahui efektifitas *Streptomyces* spp. dalam menekan penyakit keriting kuning, pertumbuhan tanaman dan hasil panen cabai besar. Penelitian dilakukan di lahan petani di Desa Harjobinangun, daerah Pakem, Kabupaten Sleman, Yogyakarta. Menggunakan varietas cabai Twist dan Isolat *Streptomyces* spp. koleksi Laboratorium Bakteriologi Tumbuhan dengan konsentrasi 10^8 CFU/ml. Hasil penelitian menunjukkan bahwa *Streptomyces* spp. mampu menurunkan insidensi dan intensitas penyakit pada fase vegetatif 54,17% dan 59,06%. Sedangkan pada fase generatif 50% dan 65,92%. Aplikasi *Streptomyces* spp. dapat meningkatkan tinggi dan diameter tanaman pada fase vegetatif 4,61% dan 6,05%. dan pada fase generatif 27,28% dan 1,11%. Pada perlakuan *Streptomyces* spp. terjadi peningkatan panjang akar, volume akar dan jumlah cabang produktif 4,40%, 20,70%, dan 24,81%. Aplikasi *Streptomyces* spp. dapat meningkatkan jumlah dan bobot total panen 15,5% dan 16,72%. Selain itu aplikasi *Streptomyces* spp. dapat meningkatkan kualitas buah ditunjukkan dengan peningkatan panjang, diameter, dan bobot buah layak jual 6,26%, 12,80%, dan 11,39%.

Kata kunci : virus keriting kuning cabai, *Streptomyces* spp., intensitas penyakit, produktivitas tanaman.

Abstract

The chili yellow leaf curl disease, is one of the biggest obstacles in chili's production in Indonesia. This disease is included to Begomovirus which transmitted by the Bemisia tabaci. One of the disease controlling method is by using the Plant Growth Promoting Rhizobacter (PGPR), and is expected to decrease the use of pesticide which has bad effect for the health and environment. The purpose of this research is to find out the effectiveness of *Streptomyces* spp. in supressing the yellow leaf curl disease, the growth of the plant and the chili harvest. This research was conducted at the experimental farmers' field in Harjobinangun, Pakem, Sleman, Yogyakarta. Using varieties of chili Twist and Isolate of *Streptomyces* spp. which is the Plant-Bacteriology Laboratory collections' with a concentration of 10⁸ CFU /ml. The result of this research showed that the *Streptomyces* spp. could suppress the disease incidence and disease intensity of the vegetative phase 54,17% and 59,06%. While the generative phase of 50% and 65,92%. *Streptomyces* spp. can increase the height and diameter of plants in the vegetative phase of 4,61% and 6,05%. and the generative phase 27,28% and 1,11%. *Streptomyces* spp. can increase in length and volume of the root and amount of productive branches 4,40%, 20,70%, and 24,81%. The application of *Streptomyces* spp. can increase the amount and total weight of the harvest 15,5% and 16,72%. Moreover, the using of *Streptomyces* spp. was also affects the quality of the chili's harvest, it was shown by the increase in the length, diameter, and marketable fruit weight 6,26%, 12,80%, and 11,39%.

keywords: pepper yellow leaf curl virus, *Streptomyces* spp., disease intensity, plant productivity.