

INTISARI

Produksi cabai merah keriting belum optimal akibat serangan OPT, khususnya penyakit keriting kuning, serta pemakaian pupuk dan pestisida kimia berlebih yang dapat menurunkan kualitas hasil tanaman. Upaya peningkatan produksi cabai secara ramah lingkungan perlu dilakukan, salah satunya dengan pengaplikasian pupuk hayati. Terdapat tiga macam pupuk hayati yang diuji cobakan yaitu *Bacillus* spp., *Streptomyces* spp., dan Mikoriza. Penelitian bertujuan untuk mengetahui pengaruh pupuk hayati terhadap pertumbuhan, hasil, dan kejadian penyakit keriting kuning pada cabai merah keriting (*Capsicum annuum* L.). Penelitian dilakukan di Kecamatan Pakem, Desa Harjobinangun, Dusun Cepit, Kabupaten Sleman, Daerah Istimewa Yogyakarta, mulai bulan April – September 2015. Penelitian disusun dalam rancangan acak kelompok lengkap (RAKL), dengan tiga blok sebagai ulangan. Data pengamatan dianalisis menggunakan analisis varian (ANOVA), apabila terdapat beda nyata dilakukan dua uji lanjut yaitu uji lanjut HSD pada taraf nyata 5% guna mengetahui perbandingan antar perlakuan, dan uji lanjut LSD-Dunnet pada taraf nyata 5% untuk mengetahui perbandingan antara perlakuan dan kontrol. Hasil penelitian menunjukkan bahwa aplikasi *Streptomyces* spp. meningkatkan bobot segar dan bobot kering tanaman paling efektif sebesar 41,48% dan 46,26%. Pupuk hayati berpengaruh secara signifikan dalam menjadikan tanaman lebih sehat. Pupuk hayati *Streptomyces* spp. dan Mikoriza paling efektif diterapkan untuk menekan insidensi penyakit keriting kuning, masing-masing sebesar 30 % dan 28,5%. Ketiga pupuk hayati sama efektifnya dalam menekan intensitas penyakit kuning pada cabai merah keriting, *Bacillus* spp. menurunkan intensitas penyakit sebesar 36,4%, *Streptomyces* spp. sebesar 45,8%, dan Mikoriza sebesar 36,4 %.

Kata kunci: *Bacillus* spp., *Capsicum annuum* L., mikoriza, *Streptomyces* spp.

ABSTRACT

The production of chili (*Capsicum annuum* L.) is not optimal yet due to yellow curly disease and the use of excessive chemical fertilizers that can reduce the quality of the crop and in long term may cause ecological issues. To increase the production of chili, bio-fertilizer is one of the solutions to ecofriendly and sustainable agriculture. There were three kinds of bio-fertilizers tested *Bacillus* spp, *Streptomyces* spp. and mycorrhiza. The aims of the research were to determine the effect of bio-fertilizer on growth, yield, and disease incidence of yellow curly disease on chili. The research was conducted in Pakem, Harjobinangun, Cepit, Sleman, Yogyakarta, starting in April to September 2015. The research was arranged in a Randomized Completely Block Design (RCBD), with three blocks as replications. Data were analyzed using analysis of variance (ANOVA). Means were subjected using HSD-Tukey test at the 5% significance level to compare the effect among treatments, and LSD-Dunnett at 5% significance level to specifically compare the effect between the bio-fertilizer treatments and non-treated plants ('control'). The results showed that the fresh weight and dry weight of chili treated with *Streptomyces* spp. increased 41.38% and 46.62% compared to control. The chili applied with bio-fertilizer significantly was less prone to be infected by disease. Bio-fertilizer *Streptomyces* spp. and mycorrhizae effectively suppressed the yellow curly disease incidence, respectively by 30% and 28.5%. All bio-fertilizers, *Bacillus* spp., *Streptomyces* spp. and mycorrhiza were equally effective in suppressing the disease intensity in chili, respectively as much as 36.4%, 45.8%, and 36.4%.

Keywords: *Bacillus* spp, *Capsicum annuum* L., mycorrhiza, *Streptomyces* spp.