

## Intisari

Saat ini pada pertanaman padi banyak ditemukan penyakit kerdil yang ditularkan Wereng Batang Cokelat. Modifikasi sistem tanam dan aplikasi agensia hayati merupakan salah satu strategi untuk mencegah timbulnya penyakit kerdil. Penelitian ini bertujuan mengetahui pengaruh penggunaan bibit sehat yang diinduksi *Bacillus* sp. dan sistem tanam *System of Rice Intensification* (SRI) terhadap serangan virus kerdil dan hasil panen padi Galur R45. Penelitian dilaksanakan di Desa Sumber Rahayu, Kecamatan Moyudan, Kabupaten Sleman, mulai bulan Februari sampai Juli 2015. Penelitian dirancang menggunakan Rancangan Acak Kelompok Lengkap (RAKL) dan dianalisis dengan uji DMRT dengan tingkat kepercayaan 95%. Pengamatan meliputi intensitas dan insidensi penyakit kerdil padi, komponen pertumbuhan dan hasil panen padi Galur R45. Hasil penelitian menunjukkan kombinasi sistem tanam SRI, teknik semai tertutup dan aplikasi *Bacillus* sp. dapat menurunkan intensitas dan insidensi penyakit kerdil padi sebesar 6,14% dan 7,72% dibandingkan kontrol. Perlakuan tersebut juga dapat meningkatkan tinggi tanaman, panjang malai, berat butir per rumpun, jumlah butir per malai serta hasil panen padi Galur R45.

**Kata kunci :** Bibit Sehat, *Bacillus* sp., Padi Galur R45, SRI, Virus Kerdil Padi.

### *Abstract*

Recently, in rice field there are many found of rice dwarf disease that transmitted by brown planthopper. Modification of cropping system and application of biological control agent which were one of strategy to prevent infection of rice dwarf disease. This research aimed to determine the effect of healthy seed that induced by *Bacillus* sp. and cropping system by System of Rice Intensification (SRI) against rice dwarf virus and yield production of rice R45 line. This research was conducted in Sumber Rahayu Village, Moyudan, Sleman from February until July 2015. This research was designed by Randomized Complete Block Design (RCBD) and analyzed with Duncan Multiple Range Test to estimating the level of significance at  $p \leq 0,05$ . The observation included, incidence and disease severity of rice dwarf virus, plant growth, and yield production of rice R45 line. The results showed that combination of SRI cropping system, closed seedling technique, and treatment with *Bacillus* sp. could suppress severity and incidence of rice dwarf disease with 6,14 % and 7,72 % was compared to the control. By this treatment, also could increase plant height, panicle length, weight of grain per clump, total grain per panicle, and yield production of rice R45 line.

**Keywords:** *Bacillus* sp., Healthy Seed, Rice R45 Line, Rice Dwarf Disease, SRI.