

INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh dosis pupuk organik dan pemberian *Bacillus* spp. terhadap perubahan sifat kimia tanah, serapan hara NPK, pertumbuhan vegetatif dan generatif, serta ketahanan terhadap serangan penyakit kerdil dan hasil produktivitas padi sawah organik pada varietas unggul dan lokal. Pengambilan sampel tanah dilakukan pada awal sebelum perlakuan dan setelah satu minggu perlakuan. Pengamatan sampel tanaman dilakukan sejak umur 7 HST hingga panen serta pengambilan sampel tanaman dilakukan pada akhir masa vegetatif dan akhir masa generatif. Penelitian ini dilaksanakan di Desa Kebonagung, Imogiri, Bantul pada bulan Oktober 2020 sampai bulan Mei 2021. Perlakuan yang diaplikasikan adalah pemberian pupuk organik dengan dosis 0 ton/ha, 5 ton/ha, dan 10 ton/ha serta penambahan *Bacillus* spp. pada varietas padi unggul dan padi lokal. Hasil penelitian menunjukkan bahwa perlakuan dosis pupuk 10 ton/ha dan *Bacillus* spp. berpengaruh terhadap C-organik, ketersediaan NPK tanah, serapan hara NPK pada tanaman padi, serta meningkatkan ketahanan tanaman terhadap penyakit kerdil akibat RRSV. Hasil produksi tertinggi pada varietas Padjajaran terdapat pada perlakuan yang diaplikasikan dengan dosis pupuk 10 ton/ha dan *Bacillus* spp. sebesar 12,13 ton/ha dan pada varietas Mentik Wangi terdapat pada perlakuan dosis pupuk 10 ton/ha tanpa *Bacillus* spp. sebesar 11,62 ton/ha.

Kata kunci: Pertanian organik, pupuk organik, *Bacillus* spp., varietas padi, serapan NPK, RRSV.

ABSTRACT

The research aimed to determine the effect of the doses of organic fertilizer and the addition of *Bacillus* spp. to changes in soil chemical properties, NPK nutrient uptake, vegetative and generative growth, and resistance to stunting as well as yields of organic rice on superior and local varieties. Soil samples were taken at the beginning before and after one week of treatments. Meanwhile, observation of plant samples was carried out from the age of 7 DAP until harvest, then these samples were taken at the end of the vegetative and generative period. This research was conducted at Kebonagung, Imogiri, Bantul from October 2020 to May 2021. The treatments in this research consisted of the application of organic fertilizer at doses of 0 tons/ha, 5 tons/ha, and 10 tons/ha and the addition of *Bacillus* spp. on superior rice and local rice varieties. The results suggested that the treatment dose of 10 tons/ha of fertilizer with *Bacillus* spp. effected on organic C, availability of soil NPK, and NPK nutrient uptake in rice plants increased after this treatment. Furthermore, it also increased plant resistance to stunting diseases because of RRSV. In a conclusion of all the treatments applied, the highest yield of the Padjajaran variety was found in the treatment applied with a dose of 10 tons/ha of fertilizer and *Bacillus* spp. of 12.13 tons/ha and the Mentik Wangi variety was found at a dose of 10 tons/ha without *Bacillus* spp. of 11.62 tons/ha.

Keywords: organic agriculture, organic fertilizer, *Bacillus* sp., rice varieties, NPK uptake, RRSV.