

INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh pemberian pupuk kandang sapi, *Bacillus* sp., dan pupuk NPK terhadap perubahan sifat kimia tanah, serapan hara NPK, dan pertumbuhan vegetatif tanaman bawang merah. Pengambilan sampel tanah dilakukan pada awal sebelum perlakuan dan pada saat selesai masa inkubasi. Pengambilan sampel tanaman dilakukan pada masa vegetatif maksimum yaitu 35 HST. Penelitian ini dilakukan di lahan pasir pantai Samas, Bantul. Pada bulan Januari 2023 – Maret 2023. Rancangan penelitian ini menggunakan kombinasi pupuk kandang sapi 0, 10, dan 20 ton/ha dengan penambahan *Bacillus* sp., serta pupuk NPK pada tanaman bawang merah. Data yang diperoleh dari penelitian dianalisis menggunakan analisis sidik ragam, apabila terdapat pengaruh nyata, maka dilanjutkan dengan uji DMRT taraf 5%. Hasil penelitian menunjukkan bahwa perlakuan pupuk kandang sapi 10 ton/ha berpengaruh nyata terhadap C-organik tanah, serapan N tanaman, dan serapan P tanaman tetapi tidak berpengaruh nyata terhadap pH tanah, serapan K tanaman, tinggi tanaman, dan jumlah daun. Perlakuan *Bacillus* sp. berpengaruh nyata terhadap C-organik tanah, serapan N tanaman, dan serapan P tanaman tetapi tidak berpengaruh nyata terhadap pH tanah, serapan K, tinggi tanaman dan jumlah daun. Pemberian pupuk NPK berpengaruh nyata terhadap C-organik tanah, serapan N tanaman, serapan P tanaman, dan jumlah daun tetapi tidak berpengaruh nyata terhadap pH tanah, serapan K tanaman, dan tinggi tanaman. Interaksi pemberian pupuk kandang sapi, *Bacillus* sp., dan pupuk NPK berpengaruh nyata terhadap C-organik tanah, serapan N tanaman, dan serapan P tanaman tetapi tidak berpengaruh nyata terhadap pH tanah, serapan K tanaman, tinggi tanaman dan jumlah daun.

Kata kunci: Entisols, pupuk kandang sapi, *bacillus* sp., bawang merah, serapan NPK

ABSTRACT

The research aimed to determine the effect of applying cow manure, *Bacillus* sp, and NPK fertilizer to changes in soil chemical properties, NPK nutrient uptake and vegetative and generative growth of shallot plant. Soil samples were taken at the beginning before and at the end of the incubation period. Meanwhile, sampling of plants was carried out during the maximum vegetative period, which was 33 HST. This research was conducted at Samas beach sand land, Bantul from January 2023 to March 2023. The data obtained from the research was analyzed using analysis of variance, if there was a real impact, then it was continued with the DMRT test at the 5% level. The results showed that the treatment of giving cow manure had a significant effect on the uptake of N, P, and K. The results showed that 10 tons/ha of cow manure treatment had a significant effect on carbon organic, soil N-uptake, and P uptake, but had no significant effect on soil pH, K uptake, plant height, and number of leaves. Treatment of *Bacillus* sp. had a significant effect on carbon organic, soil N-uptake, and P uptake but had no significant effect on soil pH, K uptake, plant height and number of leaves. The application of NPK fertilizer had a significant effect on carbon organic, N uptake, P uptake, and number of leaves but had no significant effect on soil pH, K uptake, and plant height. The interaction of giving cow manure, *Bacillus* sp., and NPK fertilizer has a significant effect on carbon organic, N uptake, and P uptake but has no significant effect on soil pH, K uptake, plant height and number of leaves.

Keywords: Entisol, cow manure, *bacillus* sp., shallots, NPK uptake