

Intisari

Penelitian ini dilakukan di Inceptisol Berbah, Sleman dengan tujuan mengetahui pengaruh pemberian pupuk kandang sapi, pupuk kandang kambing dan mikoriza terhadap serapan fosfor dan hasil jagung berdasarkan perlakuan konversi sistem pertanian konvensional ke organik. Metode penelitian yang digunakan adalah Rancangan Acak kelompok Lengkap (RAKL) dengan dua jenis pupuk kandang, dosis (0 ton/ha, 5 ton/ha, 10 ton/ha), mikoriza dan tanpa mikoriza. Pengambilan sampel tanah dilakukan sebanyak tiga kali, yaitu awal tanam, vegetatif maksimal dan panen generatif, sedangkan pengambilan sampel tanaman pada fase vegetatif maksimal. Hasil penelitian menunjukkan pemberian pupuk kandang sapi dan kambing dengan dosis 0 ton/ha, 5 ton/ha dan 10 ton/ha dan pemberian mikoriza tidak berpengaruh nyata pH aktual dan pH potensial tanah, P tersedia dan P total tanah serta serapan P tanaman jagung. Hasil pertumbuhan dan produksi jagung tertinggi didapat pada perlakuan pupuk kandang kambing 5ton/ha+mikoriza dengan berat 4,33 ton/ha jagung. Hasil serapan P tanaman jagung juga menunjukkan bahwa pemberian mikoriza dan pupuk kandang berpengaruh terhadap serapan unsur P. Pada perlakuan pupuk kandang kambing 5 ton/ha+mikoriza sebesar 64,13 mg/tanaman dan terendah pada perlakuan kontrol+tanpa mikoriza sebesar 44,75 mg/tanaman.

Kata kunci : pupuk kandang, kambing, sapi, jagung, serapan P, mikoriza, Inceptisol

Abstract

This research was conducted in Inceptisol Berbah, Sleman with the aim of knowing the effect of cow manure, goat manure and mycorrhiza on phosphorus uptake and yield of corn based treatment conversion of conventional to organic farming systems. The method used is Complete Random Design Group (RAKL) with two types of manure, dosage (0 ton/ha, 5 ton/ha, 10 ton ha), mycorrhizae and without mycorrhizae. Soil sampling was taken three at the beginning of planting, vegetative and generative phase, and the plant sampling was taken at vegetative phase. The results showed that manure of cow and goat with doses of 0 ton/ha, 5 ton/ha and 10 ton/ha and the provision of mycorrhiza not significantly affect to pH actual and pH potential, available P and P total soil and P uptake of corn plants. The highest results of growth and corn production obtained in the treatment of goat manure 5 ton/ha + mycorrhizae with a weight is 4.33 ton/ha of corn. The results of P uptake in maize tissue also showed that treatment of mycorrhiza and manure affect the absorption element P. In the treatment of goat manure 5 ton /ha + mycorrhiza amounted to 64.13 mg/plant and the lowest in treatment of control + without mycorrhiza amounted to 44.75 mg/plant

Key words : manure, goat, cow, corn, P uptake, mycorrhiza, Inceptisol