Intisari

Tanah Entisol Bugel memiliki bahan organik dan unsur hara yang rendah, salah satunya unsur kalium. Kompos campuran daun dan kotoran sapi menjadi sumber bahan organik dan unsur hara untuk tanah Entisol. Kacang panjang dapat tumbuh di daerah dataran rendah dengan sinar matahari yang melimpah, tanah mengandung bahan organik, cukup akan kebutuhan air, dan gembur. Penelitian ini dilakukan untuk mengetahui pengaruh dosis kompos campuran daun, kotoran sapi dan dosis pupuk kalium terhadap sifat kimia tanah, serapan K, pertumbuhan dan produktivitas tanaman kacang panjang. Penelitian dilakukan di Rumah Kaca, Brosot, Galur, Kulon Progo dan uji laboratorium di Fakultas Pertanian, Universitas Gadjah Mada. Media tanam yang digunakan tanah Entisol Bugel, Kulon Progo. Rancangan penelitian yang digunakan yaitu Rancangan Acak Lengkap (RAL) dengan faktor berupa dosis kompos dan dosis pupuk kalium dengan 3 ulangan. Pengamatan tanaman dilakukan pada fase vegetatif dan generatif. Perlakuan kompos dan pupuk kalium menunjukkan adanya interaksi dan perbedaan signifikan terhadap peningkatan pH aktual, KPK, C-Organik, dan Bahan Organik. Peningkatan pH potensial dan K tersedia tanah menunjukkan interaksi dan perbedaan signifikan setelah hanya pemberian kompos. Perlakuan kompos dan pupuk kalium menunjukkan tidak adanya interaksi dan perbedaan signifikan terhadap peningkatan serapan akar, serapan tajuk, dan serapan total jaringan. Serapan tajuk dan serapan total jaringan menunjukkan interaksi dan perbedaan signifikan setelah hanya pemberian pupuk kompos. Hasil panen tanaman kacang panjang menunjukkan hasil panjang polong dan berat segar polong terbaik pada perlakuan kompos 20 ton/ha + pupuk kalium 50 kg/ha.

Kata kunci: entisol, kompos, kacang panjang, kalium

Abstract

Entisol Bugel soil has low organic matter and nutrients, including potassium. Compost mixture of leaves and cow manure is a source of organic matter and nutrients for Entisol soil. Long beans can grow in lowland areas with abundant sunlight, soil containing organic matter, sufficient water, and loose. This study was conducted to determine the effect of leaf compost, cow manure and potassium fertilizer doses on soil chemical properties, K uptake, growth and productivity of long bean plants. The research was conducted in Greenhouse, Brosot, Galur, Kulon Progo and laboratory tests at the Faculty of Agriculture, Gadjah Mada University. The planting medium used was Entisol Bugel soil, Kulon Progo. The research design used was a completely randomized design (CRD) with factors such as compost dose and potassium fertilizer dose with 3 replications. Plant observations were made in the vegetative and generative phases. Compost and potassium fertilizer treatments showed an interaction and significant differences in the increase of actual pH, CEC, C-Organic, and Organic Matter. The increase in potential pH and soil available K showed interaction and significant difference after only compost application. Compost and potassium fertilizer treatments showed no interaction and significant difference on the increase of root uptake, crown uptake, and total tissue uptake. Crown uptake and total tissue uptake showed interaction and significant difference after only compost application. The yield of long bean plants showed the best pod length and pod fresh weight in the treatment of 20 tons/ha compost + 50 kg/ha potassium fertilizer.

Keywords: entisol, compost, long beans, potassium