

INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh pembenah tanah dan pupuk K₂SO₄ terhadap beberapa sifat kimia tanah, sifat agronomis tanaman jagung manis, dan dosis optimum terhadap parameter serapan hara K tanaman jagung manis. Pengambilan sampel tanah dilakukan pada saat sebelum tanam, setelah inkubasi, dan setelah panen. Pengambilan sampel tanaman dilakukan pada saat 53 HST atau pada saat fase vegetatif maksimal. Penelitian dilakukan di Rumah Kaca Bulaksumur Fakultas Pertanian Universitas Gadjah Mada serta dilakukan analisis laboratorium di Fakultas Pertanian Universitas Gadjah Mada. Rancangan penelitian yang digunakan adalah Rancangan Acak Lengkap (RAL) 2 faktor dengan 12 perlakuan sebanyak 3 ulangan dan 2 kontrol (kontrol dengan tanah asli dan kontrol tanah dengan pupuk dasar masing-masing 3 ulangan). Amandemen tanah yang diberikan antara lain, arang sekam padi dan pupuk kandang sapi dengan perbandingan 1:1 serta 10 gram mikoriza. Perlakuan pemberian amandemen tanah terdiri dari 3 taraf yaitu arang sekam padi, pupuk kandang sapi masing-masing sebanyak 5 ton/ha (A10-M), 10 ton/ha (A20-M), 15 ton/ha (A30-M). Dosis pupuk K₂SO₄ terdiri dari 4 taraf antara lain, 0 kg/ha, 60 kg/ha, 120 kg/ha, dan 180 kg/ha. Hasil penelitian menunjukkan bahwa dosis optimal terdapat pada 20 ton/ha amandemen tanah dan 180 kg/ha pupuk K₂SO₄ mampu memberikan hasil terbaik untuk meningkatkan kadar dan serapan hara K pada tanaman jagung manis.

Kata kunci: arang sekam padi, alfisol, jagung manis, mikoriza, pupuk K₂SO₄, pupuk kandang sapi

ABSTRACT

The aim of this study is to determine the effect of soil amendments and K₂SO₄ fertilizer on several soil chemical properties, agronomic traits of sweet corn plants, and the optimal dosage for potassium nutrient uptake in sweet corn plants. Soil samples were taken before planting, after incubation, and after harvest. Plant samples were collected at 53 days after planting (DAP), during the maximal vegetative phase. The study was conducted in the Bulaksumur Greenhouse, Faculty of Agriculture, Gadjah Mada University, and laboratory analyses were performed at the Faculty of Agriculture, Gadjah Mada University. The experimental design used was a Completely Randomized Design (CRD) with 2 factors, comprising 12 treatments with 3 replications and 2 controls (control with native soil and control with basal fertilizer, each with 3 replications). The soil amendments applied included rice husk charcoal and cow manure in a 1:1 ratio, along with 10 grams of mycorrhiza. The soil amendment treatments consisted of 3 levels: rice husk charcoal and cow manure at 5 tons/ha (A10-M), 10 tons/ha (A20-M), and 15 tons/ha (A30-M). The K₂SO₄ fertilizer dosages were 0 kg/ha, 60 kg/ha, 120 kg/ha, and 180 kg/ha. The results showed that the optimal dosage was 20 tons/ha of soil amendment and 180 kg/ha of K₂SO₄ fertilizer, which provided the best outcomes for increasing the content and uptake of potassium in sweet corn plants.

Keywords: biochar from rice husk charcoal, alfisol, sweet corn, mycorrhizae, K₂SO₄ fertilizer, cow manure