Abstrak

Penelitian ini bertujuan untuk mengetahui pengaruh abu terbang yang dikombinasikan dengan biochar dan pupuk kandang terhadap sifat kimia pada Alfisol dan Ultisol, pertumbuhan tananam, serta serapan Cu oleh tanaman jagung. Rancangan penelitian menggunakan rancangan acak kelompok faktorial, dengan faktor jenis tanah dan kombinasi perlakuan, dengan tiga kali ulangan. Pengamatan agronomi yang dilakukan meliputi tinggi tanaman, berat kering akar, dan berat kering tajuk. Analisis laboratorium yang dilakukan meliputi analisis tanah awal, analisis abu terbang, analisis pupuk kandang, analisis biochar, analisis tanah setelah panen, dan analisis Cu dalam daun. Hasil penelitian menunjukkan ketersedian unsur Cu di Ultisol lebih tinggi dibandingkan di Alfisol dan pemberian biochar serta pupuk kandang mampu mengurangi ketersediaan Cu didalam tanah. Serapan Cu pada tanaman jagung lebih rendah setelah diberikan perlakuan penambahan pupuk kandang dan biochar.
Kata kunci : Abu terbang, Pupuk Kandang, Biochar, Cu, Alfisol, Ultisol

Abstract

This research deals with study to determine the effect of fly ash combined with biochar and manure on the chemical properties of Alfisols and Ultisols, plant growth, and Cu uptake of corn plants. Randomized block factorial design was used in this researh. The factors were soil type and treatment combinations, with three replication. Agronomic parameters that carried out included height of plants, dry weight of root, and dry weight of shoot. Laboratory analysises carried out included initial soil analysis, analysis of fly ash, manure analysis, biochar analysis, soil analysis after harvest, and analysis of Cu in leaves. The results showed that the availability of Cu in Ultisol was higher than in Alfisol. Application of biochar and manure was able to reduce the availability of Cu in the soil. Uptake of Cu in corn plants was lower after being given the treatment of addition of manure and biochar.
Key Words: Fly Ash, Manure, Biochar, Cu, Alfisol, Ultisol