

Intisari

Limbah hasil pembakaran batubara berupa abu terbang setiap hari terus bertambah. Pemanfaatannya di bidang industri belum cukup untuk mengurangi jumlahnya. Abu terbang batubara mengandung silika yang tinggi sehingga diharapkan dapat dimanfaatkan dalam bidang pertanian. Penelitian ini bertujuan untuk mengetahui pengaruh pemberian abu terbang batubara terhadap kadar silika pada tanaman kedelai dan mengetahui dosis optimum abu terbang batubara untuk pertumbuhan tanaman kedelai. Penelitian dilaksanakan dari bulan Mei 2014 sampai Februari 2015. Rancangan penelitian menggunakan Rancangan Acak Lengkap dengan satu faktor perlakuan, yaitu dosis abu terbang batubara dengan tiga kali ulangan. Pengamatan agronomi meliputi tinggi tanaman, jumlah daun, berat segar, dan berat kering. Analisis laboratorium meliputi tanah awal, abu terbang batubara, pupuk kandang, tanah setelah inkubasi, dan kadar silika. Hasil penelitian menunjukkan pemberian abu terbang batubara tidak memberikan pengaruh yang nyata terhadap kadar silika pada tajuk dan akar kedelai. Pemberian abu terbang batubara memberikan dampak negatif terhadap pertumbuhan dan berat kering tajuk kedelai.

Kata kunci: abu terbang batubara, silika, kedelai, Vertisol, Alfisol

Abstract

Waste coal combustion products such as fly ash every day continues to grow. Its utilization in industrial sector has not been sufficient to reduce the amount. Coal fly ash containing high silica which is expected to be used in agriculture. This research deals with studied to determine the effect of coal fly ash on silica content of soybean and getting the optimum dosage of coal fly ash for growing soybeans. The research was conducted since May 2014 until February 2015. The research design used completely randomized design with one factor, coal fly ash dosage factors with three replications. Agronomic observations that performed were the height of plants, leaf number, fresh weight, and dry weight. Laboratory analysis which performed were initial soils, coal fly ash, manure, soil after incubation, and silica content. The results of this research showed that granting coal fly ash no give effect to the silica content of soybeans. Application of coal fly ash had a negative impact on growth and shoot dry weight of soybeans.

Keywords: coal fly ash, silica, soybean, Vertisols, Alfisols