

INTISARI

Penelitian ini bertujuan untuk mengkaji mengenai interaksi yang terjadi antara unsur hara P dan B terhadap ketersediaan hara P dan B serta pertumbuhan jagung manis di Alfisol Ponjong, Gunungkidul. Penelitian ini dilaksanakan di rumah kaca Kebun Tridharma, Fakultas Pertanian, Universitas Gadjah Mada. Penelitian ini disusun dalam Rancangan Acak Lengkap Faktorial dengan dua faktor perlakuan berupa dosis asam borat dan jenis pupuk P. Dosis asam borat yang digunakan yaitu 0 dosis (tanpa asam borat), 1x dosis (3,2 kg/ha), dan 2x dosis (6,4 kg/ha) sedangkan jenis pupuk P yang digunakan yaitu SP-36, DAP, dan RP (Rock Phosphate). Hasil menunjukkan bahwa pemberian perlakuan berupa dosis asam borat dan jenis pupuk P mampu memberikan hasil yang berbeda nyata terhadap P-tersedia dan B-tersedia. Pemberian perlakuan dosis asam borat dan jenis pupuk P tidak berpengaruh nyata terhadap tinggi tanaman, jumlah daun, diameter batang, berat segar dan berat kering batang, akar, dan tongkol, akan tetapi memberikan pengaruh nyata terhadap panjang akar, berat segar biji, dan berat kering biji tanaman jagung manis. Pemberian asam borat mempengaruhi penyerapan unsur hara P oleh biji dimana berat segar dan berat kering biji tertinggi dihasilkan pada pemberian perlakuan pupuk DAP tanpa asam borat.

Kata kunci: fosfor, boron, alfisol, jagung manis

ABSTRACT

This study aims to investigate the interaction between P and B nutrients on the availability of P and B nutrients as well as the growth of sweet corn in Alfisol Ponjong, Gunungkidul. The research was conducted at the greenhouse of Tridharma Garden, Faculty of Agriculture, Gadjah Mada University. The study employed a Completely Randomized Factorial Design with two treatment factors boric acid dosage and P fertilizer type. Boric acid dosages used were 0 dose (no boric acid), 1x dose (3.2 kg/ha), and 2x dose (6.4 kg/ha), while the P fertilizers used were SP-36, DAP, and RP (Rock Phosphate). Results showed that the application of boric acid dosage and P fertilizer type significantly affected the availability of P and B. However, these treatments did not significantly influence plant height, leaf number, stem diameter, fresh and dry weights of stems, roots, and cobs. However, significantly affect root length, fresh weight of seeds, and dry weight of seeds of sweet corn plants. Application of boric acid affected the absorption of P nutrients by seeds, with the highest fresh and dry weights of seeds obtained from the application of DAP fertilizer without boric acid.

Keywords: phosphorus, boron, alfisol, sweet corn