INTISARI

Penelitian ini bertujuan untuk mempelajari pengaruh waktu cekaman kekeringan pada berbagai fase pertumbuhan tanaman dan dosis pupuk Kalium terhadap pertumbuhan dan hasil jagung, serta mengkaji apakah pemberian pupuk Kalium dapat mengatasi cekaman kekeringan pada tanaman jagung. Penelitian dilaksanakan di kebun percobaan Tri Dharma Fakultas Pertanian Universitas Gadjah Mada, Banguntapan, Bantul, Yogyakarta pada bulan Mei sampai Agustus 2013. Rancangan percobaan yang digunakan adalah metode rancangan petak terbagi dengan 3 blok.Waktu cekaman kekeringan yaitu tanpa cekaman, cekaman menjelang berbunga sampai pengisian biji, dan cekaman kekeringan menjelang berbunga sampai panen bertindak sebagai perlakuan utama dan pemupukan Kalium yang terdiri atas 2 taraf yaitu tanpa pupuk Kalium dan dengan Kalium pada takaran rekomendasi Kementrian Pertanian (75 kg/ha^{-1}) bertindak sebagai anak perlakuan. Data yang diperoleh dianalisis dengan analisis varian (ANOVA) pada taraf kesalahan 5% dan dilanjutkan dengan uji *Duncan Multiple Range Tes* (DMRT) pada taraf kesalahan 5% apabila ada perlakuan yang berbeda nyata. Hasil penelitian memberikan informasi bahwa cekaman kekeringan menjelang berbunga sampai menjelang pengisian biji dan cekaman kekeringan menjelang berbunga sampai panen, masing-masing menurunkan bobot biji per hektar sebesar 26,45% dan 36,13% dibandingkan perlakuan tanpa cekaman. Pemberian Kalium pada takaran rekomendasi memberikan hasil sebesar 24,07% lebih tinggi dibandingkan perlakuan tanpa Kalium.

Kata kunci: Jagung, cekaman kekeringan, pupuk Kalium

ABSTRACT

This research aimed to study the effect of drought stress at various phases of plant growth and potassium fertilizer on growth and yield of corn as well as to observe whether the addition of potassium can overcome drought stress in the plant or not. The research was conducted in the Tri Dharma Experimental field of The Faculty of Agriculture, Gadjah Mada University, located in Banguntapan, Bantul, Yogyakarta from May to August, 2013. The experiment design used split-plot design with 3 blocks. The various time of drought stress treatments i.e. normal (without stress treatment), stress treatment applied close to flowering phase until the seed filling phase, and stress treatment applied close to flowering phase until harvesting date served as main treatment. Meanwhile, potassium fertilization consisted of two levels i.e no Potassium fertilizer and with potassium fertilizer (75kg/ha as recommended by Department of Agriculture). The collected data were analyzed by using ANOVA with 5% of significance, followed by Duncan's Multiple Range Test (DMRT) at 5% of significance level. The results showed that drought stress close to flowering until the grain filling phase and the stress close to flowering until harvesting time reduced seed weight per hectare respectively by 26.45% and 36.13% in comparison with the treatment without the stress. The recommended rate of potassium fertilizer resulted in 24,07 % higher yield compared to that of plant with no fertilizer of potassium.

Keywords : Corn, Drought Stress, Potassium Fertilizer