INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh sifat perakaran dan gaya cabut terhadap kondisi kekeringan serta menentukan korelasi antara sifat perakaran dan gaya cabut terhadap Indeks Toleransi Cekaman (ITC) pada lima kultivar kedelai. Penelitian ini dilaksanakan pada bulan Maret hingga Agustus 2018 di Kebun Tridharma Banguntapan, Fakultas Pertanian, Universitas Gadjah Mada, Yogyakarta. Rancangan perlakuan yang dipakai adalah faktorial 5 x 2 dengan tiga ulangan. Rancangan lingkungan yang digunakan adalah petak terbagi (*split plot*). Petak utama adalah pengairan yang terdiri dari dua aras yaitu disiram sehari sekali dan disiram tujuh hari sekali. Anak petak adalah kultivar kedelai terdiri dari kultivar Anjasmoro, Burangrang, Demas 1, Dering 1, dan Devon 1. Data yang diperoleh kemudian dilakukan analisis varians (ANOVA) dan apabila terdapat beda nyata, dilakukan uji lanjut Beda Nyata Jujur (BNJ) Tukey. Berdasarkan hasil penelitian kultivar Demas memiliki jumlah akar paling banyak, akar yang paling luas, gaya cabut paling besar dan berdasarkan nilai ITC Biji dan BK termasuk ke dalam kelas Toleran kekeringan. Jumlah akar, berat kering akar, panjang total akar dan luas permukaan akar, serta gaya cabut memberikan pengaruh terhadap sifat tahan kekeringan pada tanaman kedelai. ITC biji dan berat kering tanaman berkorelasi positif dengan luas permukaan dan gaya cabut.

Kata kunci: sifat perakaran, gaya cabut, ketahanan kekeringan, kedelai

ABSTRACT

The aim of this research was to study the relationship between root characteristic, pulling force and drought stress tolerance, also to determine correlation between root characteristic and pulling force to stress tolerance index (STI) of five soybean cultivars. This research was conducted from April until August 2018 and was held in screening house was made by plastic on Kebun Tridharma Banguntapan, Faculty of Agriculture, Gadjah Mada University, Yogyakarta. The treatment design that used was factorial 5 x 2 with three replications. The experimental design that used was split plot. The main plot was watering that had two level, watering everyday and watering every seven days. The sub plot was soybean cultivars that using five cultivars, such as Anjasmoro, Burangrang, Demas 1, Dering 1 and Devon 1. The data that have been collected then analyzed using analysis of variance (ANOVA). If there was significant difference, the data then tested using Tukey's Honest Significant Difference. Based on this research, Demas 1 had the most number of root, the most extensive root, the largest pulling force and based on yield and dry weight Stress Tolerance Index has been classified in tolerance class. Number of roots, root dry weight, total root length, and root surface area also pulling force had an effect on soybean drought stress resistant trait.Stress Tolerance Index of yield and dry weight had positive correlation with root surface area and pulling force.

Key words: root characteristic, pulling force, drought stress tolerance, soybean