

RINGKASAN

Kedelai (*Glycine max* L.) merupakan satu dari jenis tanaman palawija yang dibudidayakan oleh masyarakat Indonesia. Setiap tahun kebutuhan kedelai bertambah seiring dengan peningkatan laju pertumbuhan penduduk dan kesadaran masyarakat terhadap kebutuhan protein sedangkan produksi kedelai belum mencukupi sehingga impor kedelai masih cukup tinggi. Oleh karena itu, dalam mendukung peningkatan produksi kedelai, pemuliaan tanaman berperan meningkatkan varietas unggul yang memiliki sifat produksi tinggi maka dilakukan karakterisasi plasma nutfah kedelai. Koleksi plasma nutfah kedelai di Fakultas Pertanian, Universitas Jenderal Soedirman masih perlu diidentifikasi sifat-sifat unggul agar keragaman genotipe dapat diketahui dan digunakan sebagai bahan persilangan atau perbaikan karakter tanaman, sehingga akan mempermudah dan mempercepat akses pemanfaatan koleksi plasma nutfah. Penelitian ini bertujuan untuk 1) mengetahui keragaman genetik beberapa genotipe kedelai berdasarkan karakter kuantitatif dan kualitatif, 2) mengetahui hubungan antar variabel komponen hasil dengan hasil tanaman kedelai, 3) mendapatkan genotipe terpilih dibandingkan dengan genotipe pembanding.

Penelitian ini dilakukan di lahan sawah irigasi bekas tanaman padi di Desa Bantarwuni Kecamatan Kembaran Kabupaten Banyumas. Penelitian dilaksanakan dari bulan Agustus sampai November 2018. Faktor yang diuji adalah sembilan genotipe yaitu Mallika, Grobogan, Slamet, A303, A403, P71, PB4-1, Indo 253, dan C2 dengan 3 ulangan. Penelitian ini menggunakan Rancangan Acak Kelompok (RAK). Variabel yang diamati adalah warna daun, bentuk daun, warna hipokotil, tinggi tanaman, jumlah buku pada batang utama, jumlah cabang per tanaman, jumlah cabang produktif, bentuk cabang, tipe pertumbuhan, jumlah polong isi, jumlah biji normal, bobot biji per tanaman, bobot brangkasan, bobot 100 biji, indeks panen, umur berbunga (R_1), umur awal pengisian polong (R_5), umur masak fisiologis (R_7), umur periode pengisian polong (R_5 - R_7), dan umur panen (R_8).

Hasil penelitian menunjukkan bahwa keragaman genetik yang luas pada sebagian besar variabel yaitu tinggi tanaman, jumlah buku total, umur berbunga (R_1), umur awal pengisian polong (R_5), periode pengisian polong (R_5 - R_7), umur masak fisiologis (R_7), umur panen (R_8), jumlah polong isi, jumlah biji normal, bobot 100 biji, bobot brangkasan, dan indeks panen. Kemudian variabel yang berhubungan erat dengan bobot biji per tanaman yaitu jumlah buku total, jumlah cabang, jumlah cabang produktif, jumlah polong isi, jumlah biji normal, bobot 100 biji, dan indeks panen. Genotipe kedelai yang terpilih yaitu P71, PB4-1, dan Indo 253.

SUMMARY

Soybean (Glycine max L.) was one of cultivated crops in Indonesia. Every year soybean demand increased due to increasing of population growth rates and public awareness on protein requirements. Soybean production was insufficient, so that import of soybean were still quite high. Therefore, to support of increasing soybean production, the breeding program create new varieties that have the characters of high production which should be conducted characterization of soybean germplasm. The soybean germplasm collection at the Faculty of Agriculture, Jenderal Soedirman University still needed to identify superior characteristics so that the diversity of genotypes could be identified and used as a material for crossing or improving plant characteristics, so that it would facilitate and accelerate access to the use of germplasm collection. The study aimed 1) to determine the genetic variability among soybean genotypes based on quantitative and qualitative characters, 2) to determine the relationship between characters and the yield of soybean 3) to get a better genotype than the comparison genotype.

This study was conducted at the irrigated low land rice field in the Bantarwuni Village, Kembaran District, Banyumas Regency, from August to November 2018. There were nine genotypes treatment e.i. Mallika, Grobogan, Slamet, A303, A403, P71, PB4-1, Indo 253 repeated three times. Experimental were arranged in Randomized Block Design (RBD). The observed variables were leaf color, shape of leaf, hypocotyl color, plant height, number of nodes on main stem, number of branches per plant, number of productive branches, type of growth, number of pods, number of normal seeds, weight of planting seeds, stover weight, weight of 100 seeds, index harvest, age of flowering (R_1), age of initial pod filling (R_5), age of physiological (R_7), age of pod filling period (R_5 - R_7), and age of harvest (R_8).

The results showed that 1) there was wide diversity in some characters e.i. plant height, number of nodes on main stem, shape of branches, number of total pods, number of pods, number of total seeds, number of normal seeds, weight of planting seeds, above ground parts weight, weight of 100 seeds, age of flowering (R_1), age of initial pod filling (R_5), age of physiological (R_7), age of pod filling period (R_5 - R_7), and age of harvest (R_8). Then Then the variables closely related to seed weight per plant were the total number of nodes, number of branches, number of productive branches, number of filled pods, number of normal seeds, weight of 100 seeds, and harvest index. Selected soybean genotypes are P71, PB4-1, and Indo 253.