RINGKASAN

Informasi mengenai keragaman genetik dan heritabilitas penting diketahui dalam pengembangan varietas unggul kedelai. Kegiatan identifikasi karakter perlu dilakukan guna mengetahui keragaman yang ada. Tujuan penelitian ini sebagai berikut : 1) mengetahui nomor-nomor galur harapan yang memiliki karakter agronomi yang baik, 2) mengetahui keragaman genetik karakter agronomi galur-galur kedelai hasil seleksi galur murni, 3) mengetahui besaran nilai heritabilitas karakter agronomi galur-galur kedelai hasil seleksi galur murni

Penelitian dilaksakan di *screen house* Fakultas Pertanian, Universitas Jenderal Soedirman, Kecamatan Purwokerto Utara, Kabupaten Banyumas, Jawa Tengah yang berlangsung selama 4 bulan yaitu mulai dari bulan Januari hingga April 2020. Rancangan yang digunakan adalah rancangan acak kelompok dengan 3 ulangan. Perlakuan terdiri dari 11 galur hasil seleksi galur murni yaitu galur G9, G19, G2, G3, G22, G32, G37, G42, G24, G63, dan G60. Setiap galur ditanam 3 sampel tanaman sehingga diperoleh 99 satuan percobaan. Data hasil pengamatan dianalisis dengan analisis ragam (ANOVA) pada taraf nyata 5%, jika nilai F hitung berbeda nyata pada taraf 5% maka akan dilanjutkan dengan uji jarak berganda duncan pada taraf 5%. Variabel yang diamati yaitu karakter kualitatif yang meliputi warna hipokotil, warna bunga, warna bulu batang, bentuk daun, warna biji, dan karakter agronomi terdiri dari tinggi tanaman, umur berbunga, jumlah cabang produktif, jumlah polong pertanaman, jumlah biji pertanamanan, bobot 100 biji, bobot biji pertanaman dan umur panen.

Hasil penelitian menunjukkan bahwa perlakuan galur-galur yang diuji berpengaruh terhadap keragaman yang dihasilkan kecuali pada karakter jumlah cabang. Nomor harapan dengan penampilan agronomi yang baik yaitu G9 (jumlah polong terbanyak, tinggi tanaman tertinggi, dan bobot biji pertanaman terberat) , G2 (bobot 100 biji terberat), G24 (umur berbunga dan umur panen tercepat). Analisis keragaman menunjukkan karakter agronomi yang memiliki nilai ragam genetik luas yaitu karakter umur berbunga, bobot 100 biji, bobot biji pertanaman dan umur panen. Sedangkan karakter tinggi tanaman, jumlah polong pertanaman, jumlah biji pertanaman dan jumlah cabang memiliki nilai ragam genetik sempit. Pendugaan heritabilitas menunjukkan karakter umur berbunga memiliki nilai heritabilitas tinggi yaitu 0,52 yang artinya 52% karakter tersebut dipengaruhi oleh faktor genetik.

Kata Kunci : Kedelai, Galur, Karakter Agronomi, Keragaman Genetik dan Heritabilitas.

SUMMARY

Information on genetic diversity and heritability is important to know in the development of superior soybean varieties. Character identification activities need to be done in order to determine the diversity that exists. The purpose of this study is as follows: 1) knowing the numbers of hope lines that have good agronomic traits, 2) knowing the genetic diversity of agronomic traits of soybean lines from pure lines selection, 3) knowing the amount of heritability of agronomic traits of soybean lines results pure line selection

The research was conducted at the screen house of the Faculty of Agriculture, Jenderal Soedirman University, Purwokerto Utara District, Banyumas Regency, Central Java, which lasted for 4 months, starting from January to April 2020. The design used was a randomized grup design (RDG) with 3 replications. The treatments consisted of 11 lines selected from pure lines, namely G9, G19, G2, G3, G22, G32, G37, G42, G24, G63, and G60. Each line was planted with 3 plant samples so that 99 experimental units were obtained. The observational data were analyzed by analysis of variance (ANOVA) at the 5% significance level, if the calculated F value was significantly different at the 5% level it would be followed by a double-range test at the 5% level. The variables observed were qualitative characters which included hypocotyl color, flower color, stem feather color, leaf shape, seed color, and agronomic character consisting of plant height, flowering age, number of productive branches, number of planting pods, number of planting seeds, number of seeds of 100 seeds , crop seed weight and harvest.

The results showed that the treatment of the lines tested affected the diversity produced except for the character of the number of branches. Expectancy numbers with good agronomic performance are G9 (highest number of pods, highest plant height, and heaviest crop seed weight), G2 (100 heaviest seed weight), G24 (flowering age and fastest harvest age. Analysis of diversity shows agronomic characters that have broad genetic variability values, namely the character of flowering age, weight of 100 seeds, weight of seeds of planting and age of harvest. Whereas plant height, number of planted pods, number of seeds planted and number of branches have a narrow genetic diversity value. Estimation of heritability shows the flowering age character has a high heritability value of 0.52, which means that 52% of the characters are influenced by genetic factors.

Keywords: Soybean, line, Agronomic Characteristics, Genetic Diversity and Heritability