

RINGKASAN

Peningkatan produksi kedelai dapat dilakukan melalui penggunaan benih berkualitas. Peningkatan produksi benih dapat dengan teknik budidaya yang mudah, sederhana dan murah sehingga dapat diproduksi secara mandiri. Salah satu terobosan yang dapat dilakukan adalah penggunaan benih dari keragaman tiga varietas kedelai yang berasal dari hasil panen dengan populasi tanaman berbeda. Penelitian ini bertujuan untuk 1) mengetahui pengaruh asal benih dari hasil panen dengan populasi tanaman berbeda terhadap pertumbuhan dan hasil kedelai; 2) mengetahui keragaman tiga varietas kedelai berdasarkan karakter pertumbuhan dan hasilnya; 3) mengetahui pengaruh interaksi asal benih dari hasil panen dengan populasi tanaman berbeda dan keragaman tiga varietas kedelai terhadap pertumbuhan dan hasil kedelai.

Penelitian dilaksanakan pada bulan Februari 2020 sampai Juni 2020 di *screen house exfarm* dan Laboratorium Agronomi dan Hortikultura, Fakultas Pertanian, Universitas Jenderal Soedirman. Penelitian menggunakan Rancangan Acak Kelompok Lengkap (RAKL) Faktorial 3x4, terdiri dari 2 faktor perlakuan yaitu tingkat populasi tanaman kedelai saat produksi benih sebagai Faktor I, yaitu P₁=Populasi 333.333 tanaman/ha (benih asal jarak tanam 30x10 cm), P₂=Populasi 250.000 tanaman/ha (benih asal jarak tanam 40x10 cm), P₃=Populasi 166.666 tanaman/ha (benih asal jarak tanam 30x20 cm), P₄=Populasi 125.000 tanaman/ha (benih asal jarak tanam 40x20 cm). Faktor II yaitu varietas kedelai yang digunakan saat produksi benih, yaitu V₁=Varietas Mutiara 1, V₂=Varietas Anjasmoro, V₃=Varietas Devon 2. Variabel yang diamati meliputi perkecambahan benih awal, tinggi tanaman, jumlah daun, jumlah cabang, jumlah buku pada batang utama, jumlah buku produktif, jumlah buku total, umur berbunga, bobot 100 biji, bobot biji per tanaman, jumlah biji per tanaman, jumlah polong total, jumlah polong isi, jumlah polong hampa, persentase polong isi, umur panen, bobot kering tanaman.

Hasil penelitian menunjukkan bahwa benih dari hasil panen pada populasi 125.000 tanaman/ha (jarak tanam 40x20 cm) mempunyai nilai potensi tumbuh maksimum paling tinggi sebesar 78,22% dan daya kecambah sebesar 51,48%. Populasi 166.666 tanaman/ha (jarak tanam 30x20 cm) menghasilkan jumlah cabang paling banyak, yaitu 7,06 cabang. Benih asal jarak tanam 40x10 cm (populasi 250.000 tanaman/ha) menghasilkan jumlah daun dan jumlah buku pada batang utama pada 2 mst. Varietas Mutiara 1 menghasilkan jumlah cabang dan bobot 100 biji paling tinggi yaitu masing-masing 7,70 cabang dan 19,91 g. Varietas Anjasmoro menghasilkan jumlah biji per tanaman dan jumlah polong hampa paling banyak dibanding varietas lainnya. Varietas Devon 2 menghasilkan tinggi tanaman 4, 6, dan 8 mst. Tidak terdapat interaksi antara benih dari hasil panen dengan populasi tanaman berbeda dan keragaman tiga varietas terhadap pertumbuhan dan hasil kedelai.

SUMMARY

The efforts to increase soybean production can be through the use of quality seeds. Increased seed production can be done with easy, simple and cheap cultivation techniques so that they can be produced independently. One of the breakthroughs that can be made is the use of seeds from a variety of three varieties soybeans that come from harvests with different plant populations. The purpose of this study were to 1) to determine the effect of the origin of the seeds from the harvest with different plant populations on the growth and yield of soybeans; 2) to determine the diversity of three soybean varieties based on growth and yield characters; 3) to determine the effect of the interaction of the seeds origin of the harvest with different plant populations and the diversity of the three varieties of soybean based on the growth and yield of soybeans.

The study was conducted from February 2020 until June 2020 at the exfarm screen house and the Agronomy and Horticulture Laboratory, Faculty of Agriculture, Jenderal Soedirman University. The study used a completely randomized block design 3x4 factorial, consisting of 2 treatment factors, namely the level of soybean plant population during seed production as Factor I, namely P_1 =population 333,333 plants/ha (seeds from spacing 30x10 cm), P_2 =population of 250,000 plants/ha (seeds from spacing 40x10 cm), P_3 =population of 166,666 plants/ha (seeds from spacing 30x20 cm), P_4 =population of 125,000 plants/ha (seeds from spacing 40x20 cm). Factor II is the soybean variety used during seed production, namely V_1 = Mutiara 1, V_2 = Anjasmoro, V_3 = Devon 2. The variables observed included initial seed germination, plant height, number of leaves, number of branches, number of books on the main stem, number of productive books, the total number of books, flowering age, the weight of 100 seeds, seed weight per plant, number of seeds per plant, the total number of pods, number of filled pods, number of empty pods, percentage of filled pods, age of harvest, weight dry the plant.

The results showed that the seeds from the harvest on a plant population of 125,000 plants/ha (spacing 40x20 cm) had the highest maximum growth potential value of 78,22% and germination capacity of 51,48%. The plant population of 166,666 plants/ha (spacing 30x20 cm) produced the highest number of branches, namely 7,06 branches. The seeds from spacing 40x10 cm (population of 250,000 plants/ha) resulted the number of leaves and number of nodes on the main stem at 2 mst. Mutiara 1 variety produced the highest number of branches and weight of 100 seeds, namely 7,70 branches and 19,91 g. Anjasmoro variety produced the highest number of seeds /plant and number of empty pods compared to other varieties. Devon 2 variety produced plant heights of 4, 6, and 8 mst. There was no interaction between the seeds from the harvest with different plant populations and the diversity of the three varieties on the growth and yield of soybeans.