RINGKASAN

Penelitian tentang Pengaruh Pemberian Pupuk Hayati Bio-Laksa dan Jarak Tanam terhadap Pertumbuhan dan Produksi Kacang Kedelai (*Glycine max* L.). Penelitian ini dilaksanakan di Lahan Fakultas Pertanian Universitas Islam Sumatera Utara, Kecamatan Medan Johor, ketinggian tempat ± 25 m di atas permukaan laut (dpl), dengan topografi datar. Penelitian ini dimulai Bulan Juni 2023 sampai Agustus 2023. Penelitian ini dibimbing oleh Bapak Ir. Mahyudin Dalimuthe, M.P. sebagai Ketua Komisi Pembimbing dan Ibu Ir. Ratna Mauli Lubis, M.P. selaku Anggota Komisi Pembimbing.

Penelitian ini bertujuan untuk mengetahui pengaruh pupuk hayati Bio-Laksa, jarak tanam dan interaksi terhadap pertumbuhan dan produksi tanaman kacang kedelai (*Glycine max*). Penelitian menggunakan Rancangan Acak Kelompok (RAK) Faktorial dengan dua faktor yaitu: faktor pertama aplikasi dosis pupuk hayati bio-laksa (B) terdiri dari 4 taraf yaitu B_0 = Kontrol (0 ml/liter air), B_1 = 140 l/ha (20,16 ml/1 liter air), B_2 = 160 l/ha (23,04 ml/1 liter air), B_3 = 180/ha (25,92 ml/1 liter air) dan faktor kedua yaitu jarak tanam (J) terdiri dari 3 taraf, yaitu : J_1 = 40 cm x 20 cm, J_2 = 40 cm x 15 cm, J_3 = 40 cm x 10 cm. Parameter yang diamati adalah tinggi tanaman, Jumlah cabang, jumlah polong tanaman sampel, bobot polong tanaman sampel, dan bobot 100 biji.

Hasil penelitian menunjukkan bahwa perlakuan pupuk hayati bio-laksa berpengaruh terhadap jumlah polong tanaman sampel, bobot polong tanaman sampel dan bobot 100 biji. Perlakuan tertinggi terdapat pada B_3 (pupuk hayati bio-laksa 25,92 ml/1 liter air). Perlakuan jarak tanam berpengaruh terhadap semua parameter yang diukur. Produksi tertinggi terdapat pada perlakuan J_1 (jarak tanam 40 x 20 cm). Interaksi kedua perlakuan berpengaruh nyata terhadap jumlah polong tanaman sampel dan bobot polong tanaman sampel. Interaksi perlakuan tertinggi terdapat pada B_3J_1 (pupuk hayati bio-laksa 25,92 ml/1 liter air dengan jarak tanam 40 x 20 cm).

SUMMARY

The research on the effect of applying the bio-lacxa biological fertilizer and spacing on the growth and production of soybeans (Glycine max L.). This research was conducted in Fakultas Pertanian Universitas Islam Sumatera Utara, Kecamatan Medan Johor, The height of the place is ± 25 m above sea level (asl), with flat topography. This research start from June 2023 to August 2023. This research is supervised by Mr. Ir. Mahyudin Dalimuthe, M.P. as Chair of the Advisory Commission and Mrs. Ir. Ratna Mauli Lubis, M.P. as Member of the Advisory Commission.

This research aims to determine the effect of Bio-Laksa biological fertilizer on the growth of soybean plants (Glycine max). To determine the effectiveness of the effect of planting distance on the growth of soybean plants (Glycine max). To determine the interaction effect of Bio-laksa biological fertilizer and planting distance on the growth of soybean plants (Glycine max). The research used a factorial randomized block design (RAK) with two factors, namely: the first factor was the application dose of bio-laksa biofertilizer (B) consisting of 4 levels, namely B0 = Control (0 ml/liter of water), B1 = 140 l/ha (20.16 ml/1 liter of water), B2 = 160 l/ha (23.04 ml/1 liter of water), B3 = 180/ha (25.92 ml/1 liter of water) and the second factor is planting distance (J) consists of 3 levels, namely: J1 = 40 cm x 20 cm, J2 = 40 cm x 15 cm, J3 = 40 cm x 10 cm. The parameters observed were plant height, number of branches, number of pods sample plant, pod weight sample plant, and weight of 100 seeds.

The results showed that the bio-laksa biological fertilizer treatment had an effect on the number of pods sample plant, the weight of the pods sample plant and the weight of 100 seeds. The highest treatment was B3 (25.92 ml bio-laksa biological fertilizer/1 liter of water). Plant spacing treatment affected all measured parameters. The highest production was found in treatment J1 (planting distance 40 x 20 cm). The interaction of the two treatments had a significant effect on the number of pods sample plant and the weight of the pods sample plant. The highest treatment interaction was found in B3J1 (bio-laksa biological fertilizer 25.92 ml/1 liter of water with a planting distance of 40 x 20 cm).