

RINGKASAN

Penelitian ini telah dilaksanakan di Kebun Percobaan Fakultas Pertanian Universitas Islam Sumatera Utara, Jl. Karya Wisata, Gedung Johor Kecamatan Medan Johor Kota Madya Medan, Provinsi Sumatera Utara, lokasi penelitian terletak pada ketinggian ± 25 meter di atas permukaan laut (mdpl), dengan topografi datar. Penelitian ini dimulai pada Bulan Juni sampai dengan Bulan Oktober 2022. Penelitian bertujuan untuk mengetahui pengaruh pemberian Pupuk Organik Cair (POC) dan pupuk NPK terhadap pertumbuhan dan produksi tanaman kedelai pada tanah Inceptisol. Penelitian ini menggunakan Rancangan Acak Kelompok (RAK) faktorial dengan dua faktor perlakuan yang diuji. Faktor pertama, dosis POC terdiri dari 4 taraf perlakuan yaitu : P_0 = kontrol, P_1 = 7ml/l air/plot, P_2 = 14ml/l air/plot dan P_3 = 21ml/l air/plot. Faktor kedua, dosis pupuk NPK terdiri dari 4 taraf perlakuan yaitu : N_0 = kontrol, N_1 = 450 g/plot, N_2 = 900 g/plot dan N_3 = 1350 g/plot. Parameter yang diamati adalah tinggi tanaman, jumlah cabang, jumlah polong per plot, bobot polong per plot, bobot biji kering per plot dan bobot biji 100 butir.

Hasil penelitian menunjukkan bahwa pemberian POC berpengaruh nyata menunjukkan tinggi tanaman umur 5 MST dan bobot polong per plot namun tidak berpengaruh sifat pupuk nyata terhadap jumlah cabang, jumlah polong per plot, bobot biji kering per plot dan bobot biji 100 butir. Perlakuan P_3 (21 ml/l air/plot) merupakan dosis terbaik, dapat dilihat kan oleh pertumbuhan tinggi tanaman dan produksi. Pemberian pupuk NPK berpengaruh nyata meningkatkan tinggi tanaman, jumlah polong per plot, bobot polong per plot dan bobot biji kering per plot namun tidak berpengaruh nyata terhadap jumlah cabang dan bobot biji 100 butir. Perlakuan N_2 (900 g/plot) merupakan dosis terbaik, yang di perhatikan dari pertumbuhan dan produksi yang dihasilkan, Perlakuan N_2 memperoleh hasil yang tertinggi. Interaksi pemberian dosis POC dan pupuk NPK berpengaruh tidak nyata terhadap seluruh parameter yang diamati.

Kata Kunci : Tanaman Kedelai, Pupuk Organik Cair, Pupuk NPK, produksi, inceptisol

SUMMARY

This research will be carried out at the Experimental Garden of the Faculty of Agriculture, Islamic University of North Sumatra, Jl. Lecture Tour, Johor Building, Medan Johor District, Medan Municipal City, North Sumatra Province with an elevation of ± 25 meters above sea level (masl), with a flat topography. This research started from June to October 2022. The aim of this research was to determine the effect of applying liquid organic fertilizer (LOF) and NPK fertilizer on the growth and production of soybean plants in inceptisol soil. This study used a factorial randomized block design (RBD) with two treatment factors tested. The first factor, the dosage of Liquid Organic Fertilizer consisted of 4 treatment levels, namely: P0 = control, P1 = 7 ml/l of water/plot, P2 = 14 ml/l of water/plot and P3 = 21 ml/L of water/plot. The second factor, NPK fertilizer doses consisted of 4 treatment levels, namely: N0 = control, N1 = 450 g/plot, N2 = 900 g/plot and N3 = 1350 g/plot. Parameters observed were plant height, number of branches, number of pods per plot, pod weight per plot, dry seed weight per plot and seed weight of 100 grains.

The results showed that the application of POC had a significant effect on plant height and pod weight per plot but had no significant effect on the number of branches, number of pods per plot, dry seed weight per plot and 100 grain weight. The P3 treatment (21 ml/l of water/plot) was the best dose, this can be seen from the growth in plant height and production, the P3 treatment obtained the highest yields. The application of NPK fertilizer had a significant effect on plant height, number of pods per plot, pod weight per plot and dry seed weight per plot but had no significant effect on the number of branches and seed weight of 100 grains. The N2 treatment (900 g/plot) was the best dose, this can be seen from the growth and production produced, the N2 treatment obtained the highest yield. The interaction of POC and NPK fertilizer doses had no significant effect on all parameters observed.

Keywords: Soybean Plants, Liquid Organic Fertilizer, NPK Fertilizer, production, inceptisol