

RINGKASAN

Penelitian ini dilaksanakan di lahan percobaan Fakultas Pertanian Universitas Islam Sumatera Utara, Jalan Karya Wisata, Kecamatan Medan Johor, Kota Madya Medan. Provinsi Sumatera Utara. Lokasi penelitian terletak pada ketinggian 25 meter di atas permukaan laut (dpl). Topografi tanah tergolong datar. Penelitian ini dilaksanakan mulai bulan April sampai dengan bulan Agustus 2023. Penelitian ini bertujuan untuk mempelajari pengaruh pemberian dolomite dan kotoran ayam terhadap pertumbuhan dan hasil tanaman kedelai di tanah *Ultisol*. Penelitian ini menggunakan model Rancangan Acak Kelompok (RAK) faktorial dengan 2 faktor perlakuan, faktor pertama yaitu dolomit dengan 4 taraf perlakuan terdiri atas D_0 = kontrol, D_1 = 2.5 g/polybeg, D_2 = 5 g/polybeg dan D_3 = 7.5 g/polybeg. Faktor kedua yaitu kotoran ayam dengan 4 taraf perlakuan, terdiri atas: A_0 = control, A_1 = 25 g/polybeg, A_2 = 50 g/polybeg dan A_3 = 75 g/polybeg. Parameter yang diamati adalah tinggi tanaman, diameter batang, jumlah cabang, jumlah daun, luas daun, jumlah polong per tanaman, bobot polong per tanaman, bobot biji 100 butir dan jumlah bintil akar.

Hasil penelitian menunjukkan bahwa pemberian dolomit berpengaruh nyata meningkatkan tinggi tanaman, diameter batang, jumlah cabang, jumlah daun, luas daun, jumlah polong per tanaman dan bobot polong per tanaman namun tidak berpengaruh nyata terhadap bobot biji 100 butir dan bintil akar. Perlakuan D_3 (7.5 g/polybeg) merupakan dosis terbaik, hal ini diperlihatkan oleh pertumbuhan tanaman dan hasil yang diperoleh, dimana perlakuan D_3 memberikan hasil yang tertinggi. Pemberian kotoran ayam berpengaruh nyata meningkatkan tinggi tanaman, diameter batang, jumlah cabang, jumlah daun, luas daun, jumlah polong per tanaman dan bobot polong per tanaman namun tidak berpengaruh nyata terhadap bobot biji 100 butir dan bintil akar. Perlakuan A_3 (75 g/polybeg) merupakan dosis terbaik, sebagaimana yang diperlihatkan oleh pertumbuhan dan hasil tanaman, dimana perlakuan A_3 memberikan hasil yang tertinggi. Interaksi pemberian dolomit dan kotoran ayam berpengaruh nyata meningkatkan tinggi tanaman pada umur 3 MST, diameter batang pada umur 2 MST dan jumlah cabang tanaman kedelai, namun tidak berpengaruh nyata terhadap peubah lainnya.

Kata Kunci : Tanaman Kedelai, Dolomit, Kotoran Ayam, Tanah Ultisol

SUMMARY

This research was carried out at the experimental field of the Faculty of Agriculture, Islamic University of North Sumatra, Jalan KaryaWisata, Medan Johor District, Medan Municipality, North Sumatra Province. The research location is located at an altitude of 25 meters above sea level (asl), the land topography is relatively flat. This research will be planned from April to August 2023. This research aims to determine the effect of giving dolomite and chicken manure on the growth and production of soybean plants in ultisol soil. This research uses a factorial Randomized Block Design (RAK) model with 2 treatment factors, the first factor is dolomite with 4 treatment levels, namely D_0 = control, D_1 = 2.5 g/polybeg, D_2 = 5 g/polybeg and D_3 = 7.5 g/polybeg. The second factor is chicken manure with 4 treatment levels, namely: A_0 = control, A_1 = 25 g/polybeg, A_2 = 50 g/polybeg and A_3 = 75 g/polybeg. The parameters observed were plant height, stem diameter, number of branches, number of leaves, leaf area, number of pods per plant, pod weight per plant, weight of 100 seeds and number of root nodules.

The results showed that dolomite application had a significant effect on plant height, stem diameter, number of branches, number of leaves, leaf area, number of pods per plant and pod weight per plant but had no significant effect on the weight of 100 seeds and root nodules. The D_3 treatment (7.5 g/polybag) was the best dose, this can be seen from the plant growth and production produced, the D_3 treatment obtained the highest results. The application of chicken manure had a significant effect on plant height, stem diameter, number of branches, number of leaves, leaf area, number of pods per plant and pod weight per plant but had no significant effect on the weight of 100 seeds and root nodules. The A_3 treatment (75 g/polybag) was the best dose, this can be seen from the growth and production produced, the A_3 treatment obtained the highest results. The interaction between dolomite and chicken manure had a significant effect on the number of soybean plant branches, but had no significant effect on other observations.

Keywords: Soybean Plants, Dolomite, Chicken Manure, Ultisol Soil