

RINGKASAN

(Desi Wahyuni, 2023) Respon Pertumbuhan dan Produksi Tanaman Kedelai (*Glycine max* L. MERILL) terhadap Dosis Pupuk Cair Asam Humat dan Jenis Pupuk Organik

Penelitian ini telah dilaksanakan di lahan percobaan Fakultas Pertanian Universitas Islam Sumatera Utara, Jln. Karya Wisata, Kecamatan Medan Johor, kota Medan, Provinsi Sumatera Utara. Ketinggian tempat ± 25 m dpl, dengan topografi datar, dengan jenis tanah ordo inceptisol. Penelitian ini dimulai Bulan Maret – Bulan Juni 2023. Penelitian ini dibimbing oleh Bapak Dr. Ir. Muhammad Rizwan, M. P. selaku Ketua Komisi Pembimbing dan Ibu Dr. Ir. Murni Sari Rahayu, M. P. selaku Anggota Komisi Pembimbing.

Penelitian ini bertujuan untuk mengetahui respon penggunaan dosis pupuk cair asam humat dan jenis pupuk organik terhadap pertumbuhan dan produksi tanaman kacang kedelai dan untuk mengetahui interaksi dosis pupuk cair asam humat dan jenis pupuk organik dan terhadap pertumbuhan dan produksi tanaman kacang kedelai.

Penelitian ini menggunakan Rancangan Acak Kelompok (RAK) Faktorial yang terdiri dari 2 faktor perlakuan yaitu : Faktor pertama menggunakan berbagai dosis pupuk cair asam humat (C) yang terdiri atas 3 taraf yaitu : C₁ = pupuk cair asam humat 1 ml/10 l air, C₂ = pupuk cair asam humat 2 ml/10 l air, C₃ = pupuk cair asam humat 3 ml/10 l air. Faktor kedua menggunakan berbagai macam pupuk organik (P) yang terdiri atas 4 taraf yaitu : P₀ = tanpa perlakuan, P₁ = pupuk organik (putaganik) 210 kg/ha, P₂ = pupuk organik (tricoderma) 10 ton/ha, P₃ = pupuk organik (kandang sapi) 30 ton/ha. Parameter yang diamati adalah tinggi tanaman, diameter batang, jumlah polong per tanaman, jumlah polong berisi per tanaman, jumlah polong hampa per tanaman, bobot biji per tanaman sampel, dan bobot 100 biji.

Hasil penelitian menunjukkan bahwa pemberian dosis pupuk cair asam humat berpengaruh nyata terhadap parameter tinggi tanaman, jumlah polong per tanaman, jumlah polong berisi per tanaman, jumlah polong hampa per tanaman, bobot biji per tanaman sampel, dan bobot 100 biji, tetapi tidak berpengaruh nyata terhadap diameter batang.

Penggunaan berbagai macam jenis pupuk organik berpengaruh nyata terhadap parameter tinggi tanaman, bobot biji per tanaman sampel, dan bobot 100 biji, tetapi tidak berpengaruh nyata terhadap diameter batang, jumlah polong per tanaman, jumlah polong berisi per tanaman, jumlah polong hampa per tanaman.

Interaksi dari kedua perlakuan pupuk cair asam humat dengan jenis pupuk organik tidak berpengaruh nyata terhadap tinggi tanaman, diameter batang, jumlah polong per tanaman, jumlah polong berisi per tanaman, jumlah polong hampa per tanaman, bobot biji per tanaman sampel, tetapi berpengaruh nyata terhadap bobot 100 biji.

SUMMARY

(Desi Wahyuni, 2023) Response of Growth and Production of Soybean Plants (Glycine max L. MERILL) to Humic Acid Liquid Fertilizer Dosages and Types of Organic Fertilizer

This research has been carried out in the experimental field of the Faculty of Agriculture, Islamic University of North Sumatra, Jln. Karya Wisata, Medan Johor District, Medan City, North Sumatra Province. The height of the place is ± 25 m above sea level, with a flat topography, with the inceptisol soil type. This research started in March - June 2023. This research was guided by Mr. Dr. Ir. Muhammad Rizwan, M.P. as Chairman of the Counseling Commission and Mrs. Dr. Ir. Murni Sari Rahayu, M.P. as a Member of the Counseling Commission.

This research aims to determine the response to using doses of liquid humic acid fertilizer and types of organic fertilizer on the growth and production of soybean plants and to determine the interaction of doses of liquid humic acid fertilizer and types of organic fertilizer on the growth and production of soybean plants.

This research used a factorial randomized block design (RAK) which consisted of 2 treatment factors, namely: the first factor used various doses of humic acid liquid fertilizer (C) which consisted of 3 levels, namely: C1 = humic acid liquid fertilizer 1 ml/10 l of water, C2 = humic acid liquid fertilizer 2 ml/10 l water, C3 = humic acid liquid fertilizer 3 ml/10 l water. The second factor uses various kinds of organic fertilizer (P) consisting of 4 levels, namely: P0 = no treatment, P1 = organic fertilizer (putaganik) 210 kg/ha, P2 = organic fertilizer (tricoderma) 10 tons/ha, P3 = fertilizer organic (cow pen) 30 tonnes/ha. The parameters observed were plant height, stem diameter, number of pods per plant, number of filled pods per plant, number of empty pods per plant, seed weight per sample plant, and weight of 100 seeds.

The results showed that giving a dose of humic acid liquid fertilizer had a significant effect on the parameters of plant height, number of pods per plant, number of filled pods per plant, number of empty pods per plant, seed weight per sample plant, and weight of 100 seeds, but had no significant effect on stem diameter.

The use of various types of organic fertilizer had a significant effect on the parameters of plant height, seed weight per sample plant, and weight of 100 seeds, but had no significant effect on stem diameter, number of pods per plant, number of filled pods per plant, number of empty pods per plant.

The interaction of the two treatments of humic acid liquid fertilizer with solid organic fertilizer had no significant effect on plant height, stem diameter, number of pods per plant, number of filled pods per plant, number of empty pods per plant, seed weight per sample plant, but had a significant effect on the weight of 100 seed.