

ABSTRAK

APLIKASI KOMBINASI PUPUK NPK MAJEMUK CAIR DAN TUNGGAL PADAT TERHADAP KEMATAPAN AGREGAT DAN PRODUKSI PADA PERTANAMAN JAGUNG (*Zea mays* L.) DI KONDISI *EL NINO*, BANDAR LAMPUNG

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Permasalahan pada lahan kering masam yaitu kesuburan hara yang rendah, produktivitas tanah menurun, stabilitas agregat tanah yang rendah sehingga tanah mudah mengalami pemadatan, permeabilitas dan daya mengikat air yang rendah. Upaya untuk mengatasinya dilakukan dengan pemberian pupuk NPK agar kematapan agregat tanah meningkat dan produksi jagung meningkat. Tujuan dari penelitian ini adalah mengetahui pengaruh pupuk NPK terhadap kematapan agregat tanah dan produksi tanaman jagung. Penelitian ini dilaksanakan di Campang Raya, Kota Bandar Lampung pada bulan Februari – Agustus 2024 dan analisis dilakukan di Laboratorium Ilmu Tanah, Universitas Lampung menggunakan Rancangan Acak Kelompok (RAK) dengan 8 perlakuan dan 4 ulangan yaitu, A = Kontrol, B = Standar, C = $\frac{1}{4}$ Pupuk Tunggal N,P,K+ $\frac{1}{4}$ Pupuk NPK Cair, D = $\frac{1}{2}$ Pupuk Tunggal N,P,K+ $\frac{1}{2}$ Pupuk NPK Cair, E = $\frac{3}{4}$ Pupuk Tunggal N,P,K+ $\frac{3}{4}$ Pupuk NPK Cair, F = 1 Pupuk Tunggal N,P,K+ 1 Pupuk NPK Cair, G = 1 $\frac{1}{4}$ Pupuk Tunggal N,P,K+ 1 $\frac{1}{4}$ Pupuk NPK Cair, H = 1 $\frac{1}{2}$ Pupuk Tunggal N,P,K+ 1 $\frac{1}{2}$ Pupuk NPK Cair. Analisis data dilakukan dengan secara diskret dan dengan uji BNT dengan taraf 5 %. Hasil penelitian menunjukkan bahwa pupuk NPK belum mampu meningkatkan kematapan agregat tanah dibuktikan dengan kelas seluruh perlakuan termasuk dalam tidak mantap. Tetapi pupuk NPK mampu meningkatkan produksi tanaman jagung, hal ini dibuktikan dengan hasil produksi tanaman jagung pada perlakuan H (1 $\frac{1}{2}$ Pupuk NPK + 1 $\frac{1}{2}$ NPK Cair) sebesar 2,12 ton/ha sedangkan pada perlakuan A (Kontrol) sebesar 1,36 ton/ha.

Kata kunci : Lahan kering masam, Kematapan agregat, Pupuk anorganik.

ABSTRACT

APPLICATION OF A COMBINATION OF LIQUID AND SOLID SINGLE COMPOUND NPK FERTILIZER ON AGGREGATE STABILITY AND PRODUCTIVITY IN MAIZE (*Zea mays* L.) IN THE CONDITION OF *EL NINO* , BANDAR LAMPUNG

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The problem with acidic dryland soil is low nutrient fertility, declining soil productivity, low soil aggregate stability which causes the soil to be easily compacted, and low permeability and water-holding capacity. An effort to address these issues is by applying NPK fertilizer to improve soil aggregate stability and increase corn production. The purpose of this study was to determine the effect of NPK fertilizer on soil aggregate stability and corn yield. This research was conducted in Campang Raya, Bandar Lampung City, from February to August 2024, and the analysis was carried out at the Soil Science Laboratory, University of Lampung. The experiment used a Randomized Block Design (RBD) with 8 treatments and 4 replications: A = Control, B = Standard, C = $\frac{1}{4}$ Single N, P, K Fertilizer + $\frac{1}{4}$ Liquid NPK Fertilizer, D = $\frac{1}{2}$ Single N, P, K Fertilizer + $\frac{1}{2}$ Liquid NPK Fertilizer, E = $\frac{3}{4}$ Single N, P, K Fertilizer + $\frac{3}{4}$ Liquid NPK Fertilizer, F = 1 Single N, P, K Fertilizer + 1 Liquid NPK Fertilizer, G = $1\frac{1}{4}$ Single N, P, K Fertilizer + $1\frac{1}{4}$ Liquid NPK Fertilizer, H = $1\frac{1}{2}$ Single N, P, K Fertilizer + $1\frac{1}{2}$ Liquid NPK Fertilizer. Data analysis was performed discretely using the Least Significant Difference (LSD) test at a 5% significance level. The results showed that NPK fertilizer did not improve soil aggregate stability, as all treatments were classified as unstable. However, NPK fertilizer was able to increase corn production, evidenced by the highest corn yield in treatment H ($1\frac{1}{2}$ Single NPK + $1\frac{1}{2}$ Liquid NPK) at 2.12 tons/ha, compared to 1.36 tons/ha in the control treatment (A)

Keywords : Acidic dry land, Soil Aggregate Stability, inorganic fertilizers.