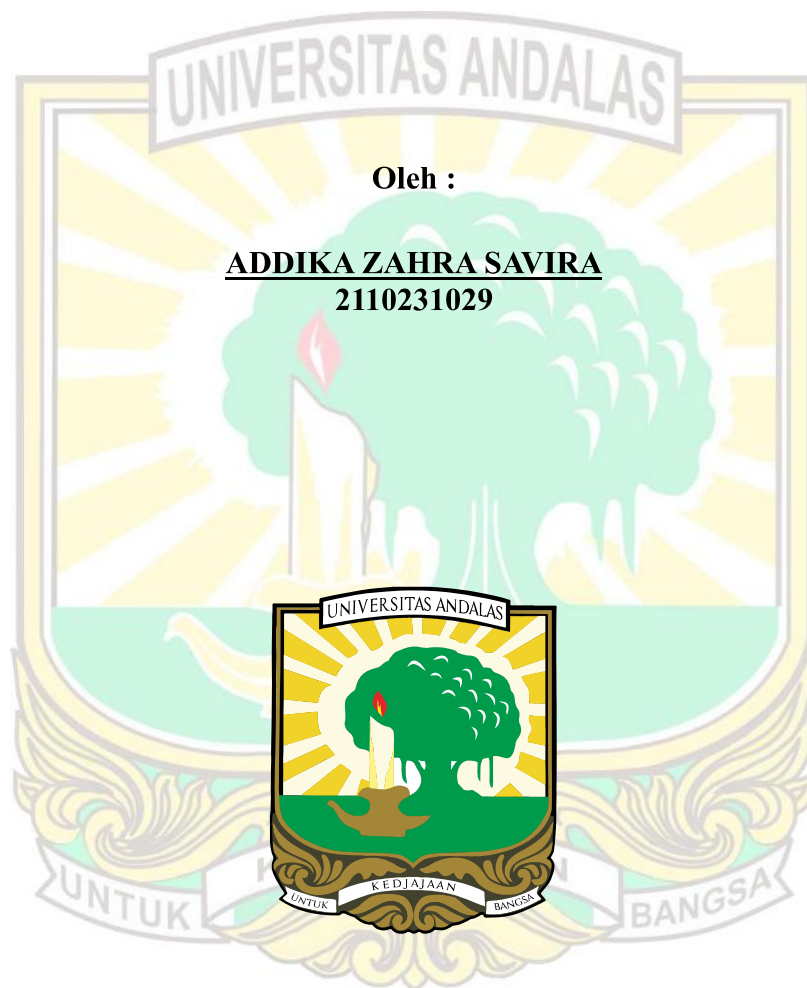


**PENGARUH PUPUK CAIR LENGKAP GENERATIF (PCLG)
RIMBRA PADA ULTISOL YANG DI KAPUR TERHADAP
SIFAT KIMIA TANAH DAN PRODUKSI TANAMAN TOMAT
(*Solanum Lycopersicum* L.)**

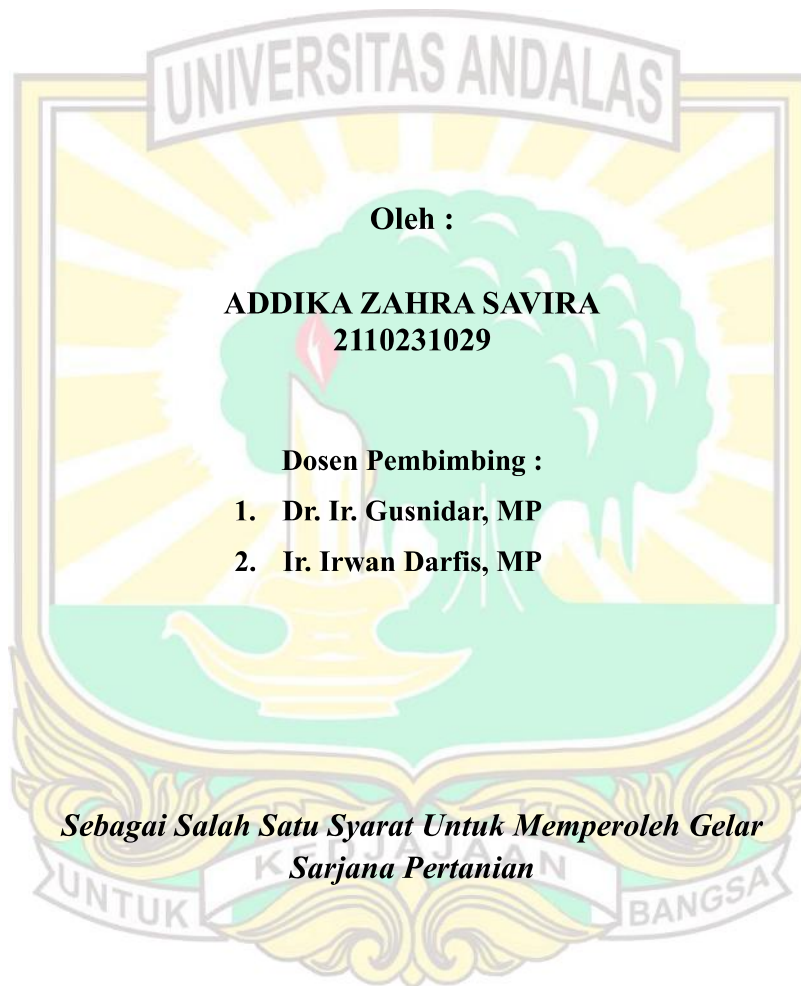
SKRIPSI



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***Sebagai Salah Satu Syarat Untuk Memperoleh Gelar
Sarjana Pertanian***

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ABSTRAK

Ultisol memiliki kendala untuk dijadikan areal pertanian, karena kondisi kecukupan hara yang rendah serta kandungan bahan organik yang rendah. Upaya pemupukan menggunakan pupuk cair diharapkan dapat memperbaiki sifat kimia Ultisol dan mampu memenuhi nutrisi untuk tanaman tomat (*Solanum Lycopersicum* L.). Penelitian bertujuan untuk mengetahui pengaruh konsentrasi Pupuk Cair Lengkap Generatif (PCLG) Rimbra pada Ultisol yang di kapur terhadap sifat kimia tanah dan produksi tanaman tomat (*Solanum Lycopersicum* L.). Penelitian dilaksanakan pada Januari hingga Juni 2025. Penelitian berbentuk rancangan acak lengkap (RAL) 15 unit dengan 5 perlakuan (0 %; 15%; 25%; 35% dan 45%) dan 3 ulangan. Pupuk diberikan dengan cara dikocorkan ke dalam tanah pada 2, 4, 6, dan 8 minggu setelah tanam (MST). Parameter analisis pupuk yaitu Ca-total, Mg-total, dan S-total. Parameter analisis tanah yaitu pH, P-tersedia, C-organik, N-total, KTK, K-dd, dan C/N. Hasil penelitian menunjukkan bahwa kandungan Ca-total 1,05% , Mg-total 0,85%, dan S-total 0,14% belum memenuhi standar mutu pupuk anorganik cair 3%. Pemberian PCLG Rimbra dengan konsentrasi 45% mampu memperbaiki sifat kimia tanah setelah panen dengan nilai pH 5,79 unit, P-tersedia sebesar 13,78 ppm, C-organik sebesar 6,81%, N-total dengan nilai 0,86%, KTK sebesar 21,92 me/100g, K-dd dengan nilai 0,57 me/100g, dan C/N sebesar 7,92. Pertumbuhan tanaman tomat belum memenuhi deskripsi varietas Tomat Servo F1, meliputi tinggi tanaman tomat yaitu 126 cm, bobot buah tomat pada 10 kali panen sebesar 471,39g, serta bobot basah dan kering batang tambah daun sebesar (221,10g dan 44,39g). Berdasarkan hasil penelitian ini disarankan untuk menambahkan bahan dasar pupuk cair agar unsur hara tanaman tercukupi dan pemberian konsentrasi yang lebih agar pertumbuhan tanaman tomat lebih maksimal.

Kata kunci : Pupuk Anorganik Cair, Sifat Kimia Tanah, Tanaman Tomat, Ultisol

The Effect of Complete Generative Liquid Fertilizer (PCLG) Rimbra on Limed Ultisol Soil Chemical Properties and Tomato (*Solanum Lycopersicum* L.) Production

ABSTRACT

Ultisol has several limitations for agricultural use due to low nutrient availability and organic matter content. Fertilization using liquid fertilizer is expected to improve the chemical properties of Ultisol and meet the nutrient requirements of tomato plants (*Solanum Lycopersicum* L.). This study was aimed to investigate the effect of different concentrations of Rimbra Generative Complete Liquid Fertilizer (PCLG) applied to limed Ultisol on soil chemical properties and tomato production. The experiment was conducted from January to June 2025 using a completely randomized design (CRD) with 15 units, consisting of 5 treatments (0%, 15%, 25%, 35%, and 45% PCLG concentration) and 3 replications. Fertilizer was applied by pouring onto the soil at 2, 4, 6, and 8 weeks after planting (WAP). Parameters for fertilizer analysis were total Ca, total Mg, and total S. Parameters for soil analysis were pH, available P, organic C, total N, CEC, exchangeable K, and C/N ratio. The results showed that the fertilizer PCLG contained 1,05 % total Ca, 1,92 % total Mg, and 0,14 % total S, which did not meet the quality standards for inorganic liquid fertilizer. Application of PCLG Rimbra at a concentration of 45% was able to improve soil chemical properties after harvest with the pH was 5.79, the available P was 13.78 ppm, organic C was 6.81%, total N was 0.86%, CEC was 21.92 me/100g, exchangeable K was 0.57 me/100g, and C/N ratio was 7.92. Tomato growth did not meet the description of the Servo F1 tomato variety, with plant height was 126 cm, the total fresh fruit weight for 10 times of harvesting was 471.39 g, and the fresh and dry weight of the stems and the leaves were 221.10 g and 44.39 g, respectively. Based on these results, it was recommended to add more base materials to the liquid fertilizer to ensure adequate nutrient supply and to use higher application concentrations to optimize tomato growth.

Keywords: Inorganic Liquid Fertilizer, Soil Chemical Properties, Tomato plants, Ultisols