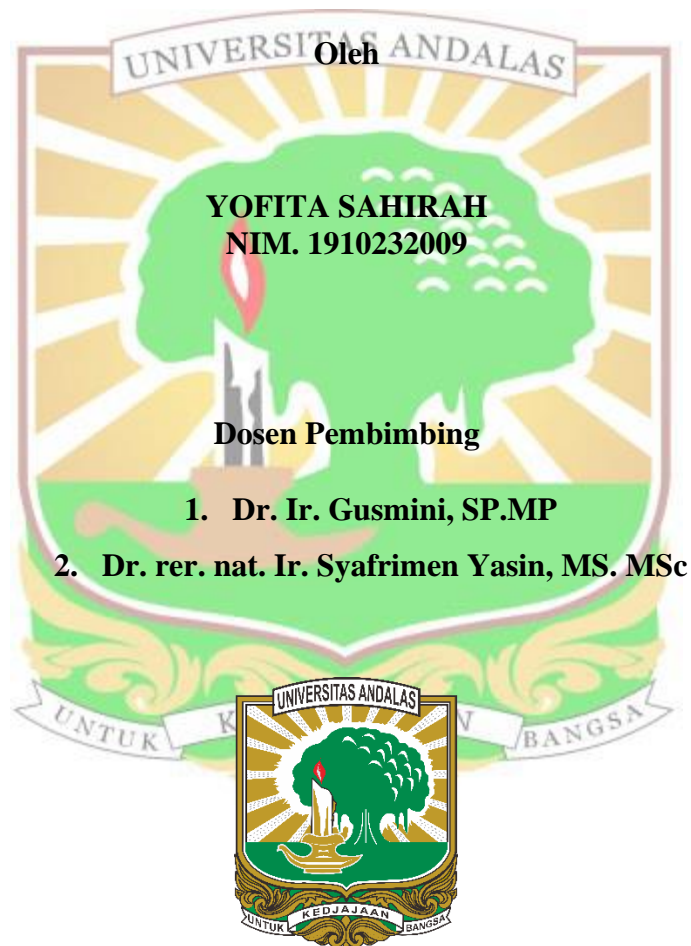


**APLIKASI BIOKANAT DALAM PERBAIKAN SIFAT KIMIA  
ULTISOL DAN PENGARUHNYA TERHADAP HASIL  
TANAMAN BAWANG MERAH (*Allium cepa* L.)**

**SKRIPSI**



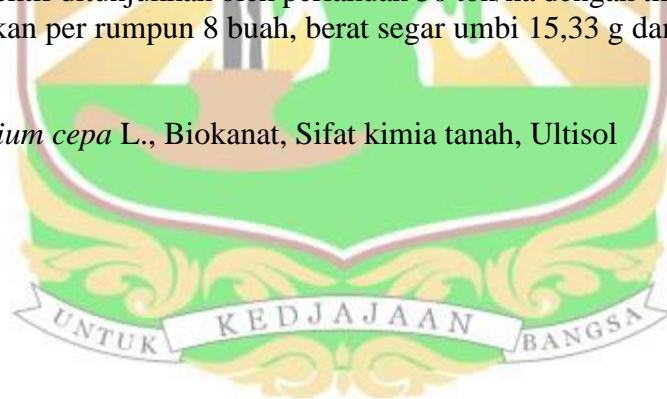
**FAKULTAS PERTANIAN  
UNIVERSITAS ANDALAS  
PADANG  
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# APLIKASI BIOKANAT DALAM PERBAIKAN SIFAT KIMIA ULTISOL DAN PENGARUHNYA TERHADAP HASIL TANAMAN BAWANG MERAH (*Allium cepa* L.)

## Abstrak

Ultisol banyak dijumpai di daratan Indonesia dan berpotensi untuk pengembangan pertanian lahan kering di Indonesia namun tanah ini memiliki tingkat kesuburan yang rendah. Permasalahan Ultisol yaitu memiliki kandungan bahan organik yang rendah, pH tanah yang masam, KTK yang rendah, serta kandungan Al dan liat yang tinggi. Penelitian ini bertujuan untuk mengkaji peranan biokanat dalam perbaikan sifat kimia Ultisol dan pengaruhnya terhadap hasil tanaman bawang merah (*Allium cepa* L.) yang telah dilaksanakan dari bulan Juli 2022 sampai Februari 2023. Penelitian ini menggunakan metode Rancangan Acak Lengkap dengan 5 perlakuan dan 3 ulangan. Macam perlakuan yang diuji merupakan dosis biokanat (dosis 0 ton/ha, 10 ton/ha, 20 ton/ha, 30 ton/ha, 40 ton/ha). Hasil terbaik ditunjukkan oleh perlakuan 40 ton/ha yaitu pH H<sub>2</sub>O 5,74, pH KCl 4,32, Al-dd 0,21 cmol.kg<sup>-1</sup>, C-organik 4,87%, P-tersedia 13,28 ppm, N-total 0,62%, KTK 36,32 cmol.kg<sup>-1</sup>, Ca-dd 5,27 cmol.kg<sup>-1</sup>, Mg-dd 1,49 cmol.kg<sup>-1</sup>, Na-dd 0,58 cmol.kg<sup>-1</sup>, dan K-dd 0,55 cmol.kg<sup>-1</sup>. Pertumbuhan dan hasil bawang merah paling efektif ditunjukkan oleh perlakuan 30 ton/ha dengan tinggi tanaman 34,1 cm, jumlah anakan per rumpun 8 buah, berat segar umbi 15,33 g dan berat kering jual umbi 9,97 g.

Kata kunci : *Allium cepa* L., Biokanat, Sifat kimia tanah, Ultisol



# APPLICATION OF BIOKANAT ON IMPROVING CHEMICAL PROPERTIES OF ULTISOL AND THE EFFECT ON THE YIELD OF SHALLOT (*Allium cepa* L.)

## Abstract

Ultisols are dominated the Indonesian mainland. They have potential to be developed for dryland agriculture. However these soils have low fertility, because they have low organic matter content, low soil pH, low Cation Exchange Capacity, high Al-exchangeable and clay content. This study was aimed to examine the role of biokanat on improving the chemical properties of Ultisol, and the effect on the yield of shallots (*Allium cepa* L.). This research was carried out from July 2022 to February 2023. The treatment was 5 biokanat doses (0 ton/ha, 10 ton/ha, 20 ton/ha, 30 ton/ha, 40 ton/ha), with 3 replicate. The experimental units were allocated based on Completely Randomized Design (CRD). The best results were found under 40 ton/ha of biokanat application, namely soil pH H<sub>2</sub>O was 5.74, pH KCl was 4.32, Al exchangeable was 0.21 cmol.kg<sup>-1</sup>, Organic C was 4.87%, P-available was 13.28 ppm, total N was 0.62%, Cation Exchange Capacity was 36.32 cmol.kg<sup>-1</sup>, Ca-exchangeable was 5.27 cmol.kg<sup>-1</sup>, Mg-exchangeable was 1.49 cmol.kg<sup>-1</sup>, Na-exchangeable was 0.58 cmol. kg<sup>-1</sup>, and K-exchangeable was 0.55 cmol.kg<sup>-1</sup>. The most effective growth and yield of shallots were also shown by the 30 ton/ha of biokanat application showed by the plant height 34.1 cm, the number of tillers per clump was 8, the tuber fresh weight was 15.33 g and the tuber dry weight was 9.97 g.

Keywords: Biokanat, *Allium cepa* L., Soil chemical properties, Ultisol

