

**APLIKASI PUPUK KOMPOS KOTORAN AYAM TERHADAP
KETERSEDIAAN UNSUR HARA MIKRO PADA PRODUKSI
TANAMAN JAGUNG MANIS (*Zea mays saccharata*) PADA
ULTISOL**

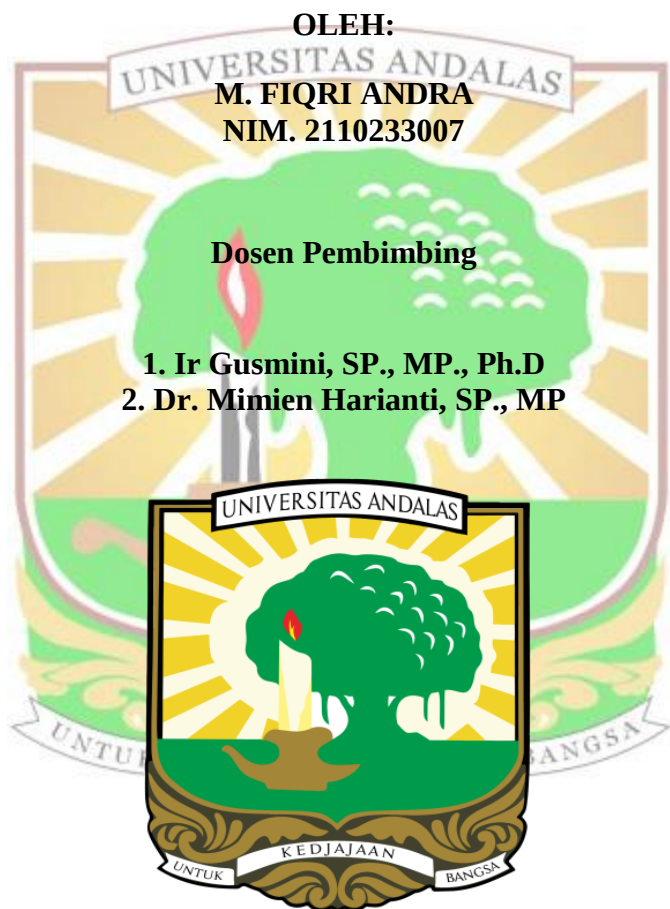
SKRIPSI

OLEH:

**M. FIQRI ANDRA
NIM. 2110233007**

Dosen Pembimbing

- 1. Ir Gusmini, SP., MP., Ph.D**
- 2. Dr. Mimien Harianti, SP., MP**



**FAKULTAS PERTANIAN
UNIVERSITAS ANDALAS
PADANG
2025**

**APLIKASI PUPUK KOMPOS KOTORAN AYAM
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mays saccharata*) PADA ULTISOL**

ABSTRAK

Ultisol merupakan salah satu jenis tanah masam yang memiliki kendala berupa rendahnya pH dan kapasitas tukar kation (KTK), serta tingginya kelarutan unsur Fe yang dapat menimbulkan toksisitas dan menekan ketersediaan unsur mikro lain seperti Cu dan Zn. Pemberian pupuk kompos kotoran ayam merupakan salah satu upaya yang dapat dilakukan untuk memperbaiki sifat kimia Ultisol. Penelitian ini bertujuan untuk mengkaji pengaruh aplikasi pupuk kompos kotoran ayam terhadap ketersediaan unsur hara mikro (Fe, Cu, Zn) dan hubungannya dengan produksi tanaman jagung manis (*Zea mays saccharata*) pada Ultisol. Penelitian dilaksanakan di lahan masyarakat di Belimbing, Kecamatan Kuranji, Kota Padang dengan menggunakan Rancangan Acak Kelompok (RAK) 4 perlakuan dosis pupuk kompos kotoran ayam (0 ; 3,5 ; 7 ; dan 10,5 ton/ha) dengan 3 ulangan. Hasil penelitian menunjukkan bahwa pemberian pupuk kompos kotoran ayam mampu meningkatkan sifat kimia Ultisol, di antaranya pH tanah (5,11–5,45), C-Organik (0,84–1,81%), dan KTK (13,06–26,35 me/100g). ketersediaan unsur hara mikro bervariasi, di mana Fe-dd relatif stabil (4,20–4,70 ppm), Cu-dd mengalami penurunan (0,25–0,08 ppm), dan Zn-dd bervariasi pada kisaran 1,17–2,00 ppm. Pertumbuhan tanaman ditunjukkan dengan peningkatan tinggi tanaman hingga 215,01 cm dan hasil produksi mencapai 27,81 ton/ha pada dosis 10,5 ton/ha. Kesimpulan penelitian ini adalah bahwa aplikasi pupuk kompos kotoran ayam dengan dosis 7 ton/ha efektif dalam memperbaiki sifat kimia Ultisol serta menjaga ketersediaan unsur hara mikro bagi pertumbuhan dan produksi jagung manis.

Kata Kunci : Fe-dd, Cu-dd, Zn-dd, Ultisol, Kompos Kotoran Ayam, Jagung Manis



APPLICATION OF CHICKEN MANURE COMPOST ON THE AVAILABILITY OF MICRONUTRIENTS IN SWEET CORN (*Zea mays saccharata*) PRODUCTION ON ULTISOL

ABSTRACT

Ultisol is one of the acidic soil types characterized by low pH, cation exchange capacity (CEC), and high Fe solubility which may cause toxicity and suppress the availability of other micronutrients such as Cu and Zn. The application of chicken manure compost is one of the efforts that can be carried out to improve the chemical properties of Ultisol. This study was aimed to examine the effect of chicken manure compost application on the availability of micronutrients (Fe, Cu, Zn) and its relation to the production of sweet corn (*Zea mays saccharata*) on Ultisol. The experiment was conducted on farmers' land in Belimbing, Kuranji District, Padang City. The experimental units allocated based on Randomized Block Design (RBD). The treatment consisted of 4 level (0, 3, 5, 7, 10, 5 tons/ha) with 3 replicates. The results showed that the application of chicken manure compost improved several chemical properties of Ultisol, including soil pH (5.11–5.45), organic C (0.84–1.81%), and CEC (13.06–26.35 cmol/kg). the availability of micronutrients varied, where Fe exchangeable remained relatively stable (4.20–4.70 ppm), Cu exchangeable decreased (0.25–0.08 ppm), and Zn exchangeable varied within the range of 1.17–2.00 ppm. Plant growth was indicated by an increase in plant height up to 215.01 cm, and yield reached 27.81 tons/ha at the dose of 10.5 tons/ha. This study concluded that the application of chicken manure compost at the optimal dose of 7 tons/ha was effective in improving the chemical properties of Ultisol as well as maintaining the availability of micronutrients to support the growth and yield of sweet corn.

Keywords: Fe exchangeable, Cu exchangeable, Zn exchangeable, Ultisol, Chicken Manure Compost, Sweet Corn.