

**KETERSEDIAAN NITROGEN MELALUI APLIKASI
KOMPOS KOTORAN AYAM TERHADAP PRODUKSI
TANAMAN JAGUNG MANIS (*Zea mays saccharata*)
PADA ULTISOL**

SKRIPSI



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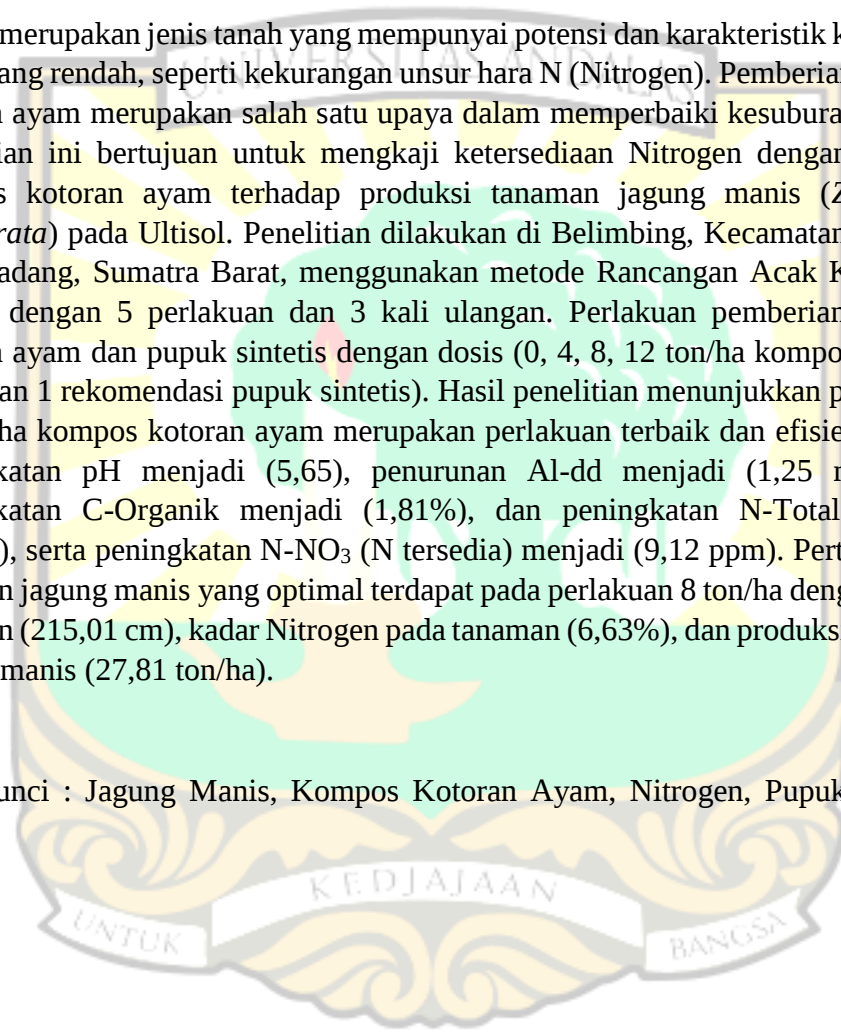
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**KETERSEDIAAN NITROGEN MELALUI
APLIKASI KOMPOS KOTORAN AYAM
TERHADAP PRODUKSI TANAMAN JAGUNG MANIS
(*Zea mays saccharata*) PADA ULTISOL**

ABSTRAK

Ultisol merupakan jenis tanah yang mempunyai potensi dan karakteristik kesuburan tanah yang rendah, seperti kekurangan unsur hara N (Nitrogen). Pemberian kompos kotoran ayam merupakan salah satu upaya dalam memperbaiki kesuburan Ultisol. Penelitian ini bertujuan untuk mengkaji ketersediaan Nitrogen dengan aplikasi kompos kotoran ayam terhadap produksi tanaman jagung manis (*Zea mays saccharata*) pada Ultisol. Penelitian dilakukan di Belimbing, Kecamatan Kuranji, Kota Padang, Sumatra Barat, menggunakan metode Rancangan Acak Kelompok (RAK) dengan 5 perlakuan dan 3 kali ulangan. Perlakuan pemberian kompos kotoran ayam dan pupuk sintetis dengan dosis (0, 4, 8, 12 ton/ha kompos kotoran ayam dan 1 rekomendasi pupuk sintetis). Hasil penelitian menunjukkan pemberian 12 ton/ha kompos kotoran ayam merupakan perlakuan terbaik dan efisien, seperti peningkatan pH menjadi (5,65), penurunan Al-dd menjadi (1,25 me/100g), peningkatan C-Organik menjadi (1,81%), dan peningkatan N-Total menjadi (0,24%), serta peningkatan N-NO₃ (N tersedia) menjadi (9,12 ppm). Pertumbuhan tanaman jagung manis yang optimal terdapat pada perlakuan 8 ton/ha dengan tinggi tanaman (215,01 cm), kadar Nitrogen pada tanaman (6,63%), dan produksi tanaman jagung manis (27,81 ton/ha).

Kata kunci : Jagung Manis, Kompos Kotoran Ayam, Nitrogen, Pupuk Sintetis, Ultisol



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

ABSTRACT

Ultisol is a type of soil characterized by low fertility and limited availability of essential nutrients, particularly nitrogen (N). The application of chicken manure compost is one of the efforts to improve the fertility of Ultisol. This study was aimed to evaluate the availability of nitrogen through the application of chicken manure compost on the production of sweet corn (*Zea mays saccharata*) in Ultisol. The research was conducted in Belimbing, Kuranji Subdistrict, Padang City, West Sumatra, using a Randomized Complete Block Design (RCBD) with five treatments and three replications. The treatments included the application of chicken manure compost at doses of 0, 4, 8, and 12 tons/ha combined with a recommended dose of synthetic fertilizer. The results showed that the application of 12 tons/ha of chicken manure compost was the most effective and efficient treatment, as indicated by an increase in soil pH (5.65), a decrease in exchangeable Al (1.25 me/100g), an increase in soil organic carbon (1.81%), total nitrogen (0.24%), and available nitrogen in the form of nitrate (9.12 ppm). The optimal growth of sweet corn was observed with the 8 tons/ha compost treatment, resulting in the highest plant height (215.01 cm), nitrogen content in plant tissue (6.63%), and sweet corn yield (27.81 tons/ha).

Keywords: Chicken Manure Compost, Nitrogen, Sweet Corn, Synthetic Fertilizer, Ultisol

