

**PENGARUH SISA BUBUK SUBBITUMINUS YANG DIAKTIVASI
UREA, NaOH, NaCl, DAN KCl TERHADAP SIFAT KIMIA
ULTISOL DAN PRODUKSI TANAMAN JAGUNG (*Zea mays L.*)**

SKRIPSI



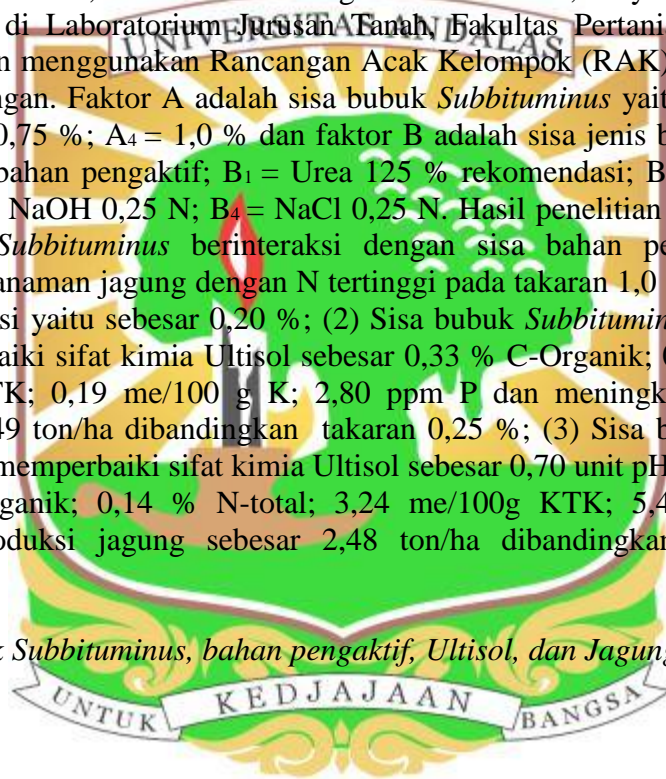
**FAKULTAS PERTANIAN
UNIVERSITAS ANDALAS
PADANG
2019**

PENGARUH SISA BUBUK SUBBITUMINUS YANG DIAKTIVASI UREA, NaOH, NaCl, DAN KCl TERHADAP SIFAT KIMIA ULTISOL DAN PRODUKSI TANAMAN JAGUNG (*Zea mays L.*)

ABSTRAK

Penelitian ini bertujuan untuk melihat pengaruh sisa interaksi bubuk *Subbituminus* dengan bahan pengaktif dalam memperbaiki sifat kimia Ultisol dan produksi Jagung (*Zea mays L.*). Penelitian dilaksanakan pada bulan September sampai Desember 2016, di Kubu Gadang Koto Nan IV, Payakumbuh Barat, Payakumbuh dan di Laboratorium Jurusan Tanah, Fakultas Pertanian, Universitas Andalas. Penelitian menggunakan Rancangan Acak Kelompok (RAK) faktorial 4 x 5 dengan 2 kali ulangan. Faktor A adalah sisa bubuk *Subbituminus* yaitu $A_1 = 0,25 \%$; $A_2 = 0,5 \%$; $A_3 = 0,75 \%$; $A_4 = 1,0 \%$ dan faktor B adalah sisa jenis bahan pengaktif yaitu $B_0 =$ tanpa bahan pengaktif; $B_1 =$ Urea 125 % rekomendasi; $B_2 =$ KCl 125 % rekomendasi; $B_3 =$ NaOH 0,25 N; $B_4 =$ NaCl 0,25 N. Hasil penelitian menunjukkan : (1) Sisa bubuk *Subbituminus* berinteraksi dengan sisa bahan pengaktif dalam meningkatkan N tanaman jagung dengan N tertinggi pada takaran 1,0 % dengan Urea 125 % rekomendasi yaitu sebesar 0,20 %; (2) Sisa bubuk *Subbituminus* takaran 1,0 % dapat memperbaiki sifat kimia Ultisol sebesar 0,33 % C-Organik; 0,07 % N-total; 3,66 me/100g KTK; 0,19 me/100 g K; 2,80 ppm P dan meningkatkan produksi jagung sebesar 1,49 ton/ha dibandingkan takaran 0,25 %; (3) Sisa bahan pengaktif Urea 125% dapat memperbaiki sifat kimia Ultisol sebesar 0,70 unit pH; 0,48 me/100g Al; 0,29 % C-organik; 0,14 % N-total; 3,24 me/100g KTK; 5,47 ppm P dan meningkatkan produksi jagung sebesar 2,48 ton/ha dibandingkan tanpa bahan pengaktif.

Kata kunci : bubuk *Subbituminus*, bahan pengaktif, Ultisol, dan Jagung



EFFECT OF RESIDUAL SUBBITUMINOUS POWDER ACTIVATED OF UREA, NaOH, NaCl, AND KCl ON CHEMICAL PROPERTIES OF ULTISOLS AND PRODUCTION OF CORN (*Zea mays* L.)

ABSTRACT

A study on residual effect of subbituminous powder was aimed to find out the interaction, between the subbituminous and the activators to improve chemical properties of Ultisols and the production of corn (*Zea mays* L.). The research was conducted in September to December 2016 in Kubu Gadang Koto Nan IV, Payakumbuh Barat, Payakumbuh and in Laboratory of Soil Science, Faculty of Agriculture, University of Andalas. The experiment was designed in randomized block design consisting of 2 factors (powder subbituminous and types of activator) with 2 replications. The first factor (residual of powder subbituminous) consisted of 4 levels, those were A1 = 0.25 %, A2 = 0.5 %, A3 = 0.75 %, A4 = 1.0 %, and the second factor (types of activator) consisted of 5 types, those were B0 = no activators, B1 = Urea 125 %, B2 = KCl 125 %, B3 = NaOH 0.25 N, B4 = NaCl 0.25 N. The results showed that: (1) residue of Subbituminous powder interacted with residual activators in raising N corn, with the highest nutrient level was 1.0% with Urea 125% recommendation; (2) Residue of subbituminous powder of 1.0% could improve the chemical properties of the Ultisols esp. OC by 0.33%; N total by 0.07%; CEC by 3.66 Cmol; P by 2.80 ppm, and corn grain weight by 1.49 t/ha compared to 0.25%; (3) The remaining 125% Urea could improve the chemical properties of the Ultisols esp. pH value by 0.70 units; decreased Al by 0.48 Cmol; increased OC by 0.29%; N total by 0.14%; CEC by 3.24 Cmol; P by 5.47 ppm, and corn (*Zea mays* L.) grain weight by 2.48 t/ha compared to without activators.

Keywords: *subbituminous powder, activators, Ultisol and corn*