KEMAMPUAN UREA DAN DOLOMIT DALAM MENGAKTIFKAN BUBUK *Subbituminus* UNTUK MENINGKATKAN KANDUNGAN HARA ULTISOL SERTA PERTUMBUHAN BIBIT TANAMAN KELAPA SAWIT

(*Elaeis guineensis Jacq)*

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PADANG
2017

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Abstrak

Penelitian ini bertujuan untuk mempelajari pengaruh interaksi bubuk *Subbituminus* dengan bahan pengaktif dalam memperbaiki sifat kimia Ultisol dan meningkatkan pertumbuhan bibit tanaman kelapa sawit (*Elaeis guineensis jacq)*. Penelitian ini telah dilaksanakan di Laboratorium Kimia Tanah dan Kebun Percobaan Fakultas Pertanian Universita Andalas dari Desember 2016 sampai Agustus 2017. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) dalam Faktorial 3 x 3 dengan 3 kali ulangan. Faktor pertama adalah (bahan pengaktif) yaitu Ao tanpa pengaktif, A1 Urea, A2 Dolomit 10 %. Faktor kedua (takaran bubuk *Subbituminus*) yaitu (B1) 10 ton/ha, (B2) 20 ton/ha dan (B3) 30 ton/ha. Hasil penelitian menunjukkan bahwa: (1) Pemberian bubuk *Subbituminus* berinteraksi dengan bahan pengaktif dalam meningkatkan N total tanah dan tinggi tanaman, dimana N-total dan tinggi tanaman tertinggi pada takaran bubuk *Subbituminus* 30 ton/ha dengan pengaktif Urea; (2) Pemberian bubuk *Subbituminus* takaran 30 ton/ha meningkatkan pH, C-organik, P-tersedia, KTK Ultisol sebesar 0,4 unit; 0,35 %; 2,09 ppm; 7,41 me/100g serta meningkatkan kadar N dan P tanaman sebesar 0,03 % dan 0,005% dibandingkan dengan takaran 10 ton/ha (3) Pemberian bahan pengaktif Urea meningkatkan pH sebesar 0,09 unit, C-organik sebesar 0,18 %, P-tersedia Ultisol sebesar 0,92 ppm dan menurunkan Al-dd sebesar 0,49 me/100g dan meningkatkan kadar N tanaman sebesar 0,07%, jumlah daun sebesar 1,64 helai, bobot kering bibit tanaman sebesar 9,19 g dibandingkan tanpa bahan pengaktif serta meningkatkan KTK tanah sebesar 1,5 me/100g dibandingkan dengan Dolomit.

Kata kunci : ***Subbituminus, Ultisol, Urea, Dolomit, Kelapa Sawit***

UREA AND DOLOMITE CAPABILITY IN ACTIVATING *Sub-bituminous* COAL POWDER TO IMPROVE NUTRIENT CONTENT OF ULTISOLS AND GROWTH OF OIL PALM (*Elaeis guineensis* Jacq) SEEDLINGS

Abstract

This study was aimed to determine the capability of Urea and Dolomite in activating *Sub-bituminous* Coal Powder (SCP) to improve nutrient content of Ultisols and growth of oil plam (*Elaeis guinensis* Jacq) seedlings. The research was conducted at Soil Chemistry Laboratory and at the Experimental Field Agriculture Faculty, Andalas University from December 2016 to May 2017. The Experiment was designed in Completely Randomized Design consisting of two factors with 3 replications. The first factor (type of activator) consisted of 3 types, those were (A_0) without activator; (A_1) 10% of Urea and (A_2) 10% of Dolomite. The second factor (*Sub-bituminous* coal powder) consisted of 3 rates, those were (B_1) 10 tons/ha; (B_2) 20 tons/ha and (B_3) 30 tons/ha. The results showed that : 1) there was an interaction between *Sub-btuminous* coal powder and activating materials in increasing soil total-N and plant height. The highest total-N and plant height was found at application of 30 SCP/ha activated with Urea. (2) Application of 30t SCP/ha increased soil pH, organic-C, available-P and CEC of Ultisols by 0.40 unit, 0.35 %, 2.09 ppm, 7.41 cmol/kg and increased plant N and P content by 0.03 % and 0.05% respectively compared to 10t SCP/ha. (3) Application of Urea increased pH by 0.09 unit, organic-C by 0.18 %, available-P of Ultisols by 0.92 ppm and reduced Al-exch by 0.49 cmol/kg as well as increased N content by 0.07 % , number of leaves by 1.64 pieces, oil palm seed weight 9.19 g compared to without activators and improved CEC by 1.5 cmol/kg compared to Dolomite.

Key Words: ***Subbituminus, Ultisols, Urea, Dolomite, Oil Palm***