

**KAJIAN KARAKTERISTIK CAMPURAN LIMBAH CAIR-
DOLOMIT (CLC-D) PABRIK KELAPA SAWIT DAN
PENGARUHNYA TERHADAP PERUBAHAN BEBERAPA
CIRI KIMIA ULTISOL**

SKRIPSI



1. Prof.Dr.Ir.Hermansah, MS.,MSc
2. Dr.Rer.Nat.Ir.Syafrimen Yasin, MS.,MSc

**FAKULTAS PERTANIAN
UNIVERSITAS ANDALAS
PADANG
2016**

KAJIAN KARAKTERISTIK CAMPURAN LIMBAH CAIR – DOLOMIT (CLC-D) PABRIK KELAPA SAWIT DAN PENGARUHNYA TERHADAP PERUBAHAN BEBERAPA CIRI KIMIA ULTISOL

ABSTRAK

Penelitian bertujuan untuk mengetahui karakteristik kualitas CLC-D, mengetahui masa inkubasi yang paling tepat dalam perbaikan Ultisol dan mengetahui pengaruh interaksi masa inkubasi CLC-D dengan dosis CLC-D yang diberikan terhadap sifat kimia Ultisol. Penelitian dilaksanakan di Laboratorium Ilmu Tanah, Fakultas Pertanian, Universitas Andalas. Penelitian menggunakan Rancangan Acak Lengkap (RAL) faktorial yang terdiri dari dua faktor dan tiga ulangan. Faktor A adalah Dosis CLC-D (L) yang terdiri dari 5 taraf yaitu L1 (0 ton/ha), L2 (5 ton/ha), L3 (10 ton/ha), L4 (15 ton/ha), L5 (20 ton/ha), dan faktor B adalah masa inkubasi (M) yang terdiri dari 4 taraf yaitu M1 (inkubasi 0 minggu), M2 (inkubasi 2 minggu), M3 (inkubasi 4 minggu), M4 (inkubasi 8 minggu) sehingga terdapat 60 unit percobaan. Hasil penelitian menunjukkan bahwa karakteristik CLC-D yaitu memiliki pH 6,95, C-total 18,72%, N-total 1,65%, P-total 0,54%, K-total 0,19%, Ca-total 0,23%, Mg-total 0,7%, C/N 11,38 dan C/P 34,66, interaksi masa inkubasi CLC-D dengan dosis CLC-D berpengaruh terhadap pH dan C-organik serta penambahan CLC-D mampu meningkatkan kandungan pH, C-organik, P-tersedia, N-total, KTK, Ca-dd, Mg-dd, K-dd, Na-dd, dan menurunkan kandungan Al-dd dalam tanah dan inkubasi 4 minggu dengan penambahan CLC-D sebanyak 20 ton/ha merupakan perlakuan terbaik untuk memperbaiki sifat kimia Ultisol.

Kata kunci : *CLC-D (Campuran Limbah Cair-Dolomit), masa inkubasi, Ultisol, Dolomit*



STUDY OF OIL PALM LIQUID WASTE – DOLOMITE (CLC – D) MIX AND ITS INFLUENCE ON CHEMICAL CHARACTERISTICS OF ULTISOL

ABSTRACT

The aim of this study was to determine the characteristics of CLC-D mix, and to find out the best incubation period of the mix with Ultisol, and the relationship between them. The study was conducted in Laboratory of Soil Science, Faculty of Agriculture, Andalas University. This experiment consisted of two factors (Doses of CLC-D and incubation period) with three replications. Factor A was the doses of CLC-D (L) having 5 levels, those were L1 (0 ton ha⁻¹), L2 (5 ton ha⁻¹), L3 (10 ton ha⁻¹), L4 (15 ton ha⁻¹), L5 (20 ton ha⁻¹) and factor B was the incubation period having 4 levels those were M1 (0 week), M2 (2 week), M3 (4 week) and M4 (8 week) so that there were 60 experimental unit in this study which were allocated in Completely Randomized Design (CRD). The result showed that the pH value of CLC-D was 6.95, the total carbon was 18.72 %, the total nitrogen was 1.65 %, the total phosphorus was 0.54 %, the total potassium was 0.19 %, the total calcium was 0.23 %, the total magnesium was 0.7 %, C/N was 11.38 and C/P was 34.66. Interaction between incubation period and doses of CLC-D influenced values of soil pH and organic carbon. Addition of CLC-D to Ultisol could increase soil pH, organic carbon, available P, total nitrogen, CEC, exchangeable Ca, Mg, K, Na and decrease exchangeable Al. In conclusion, a treatment of a 4-week incubation period combined with 20 ton ha⁻¹ of CLC-D application was the best treatment to improve the chemical properties of Ultisol.

Keyword: *CLC-D, incubation period, dolomite, Ultisol*

