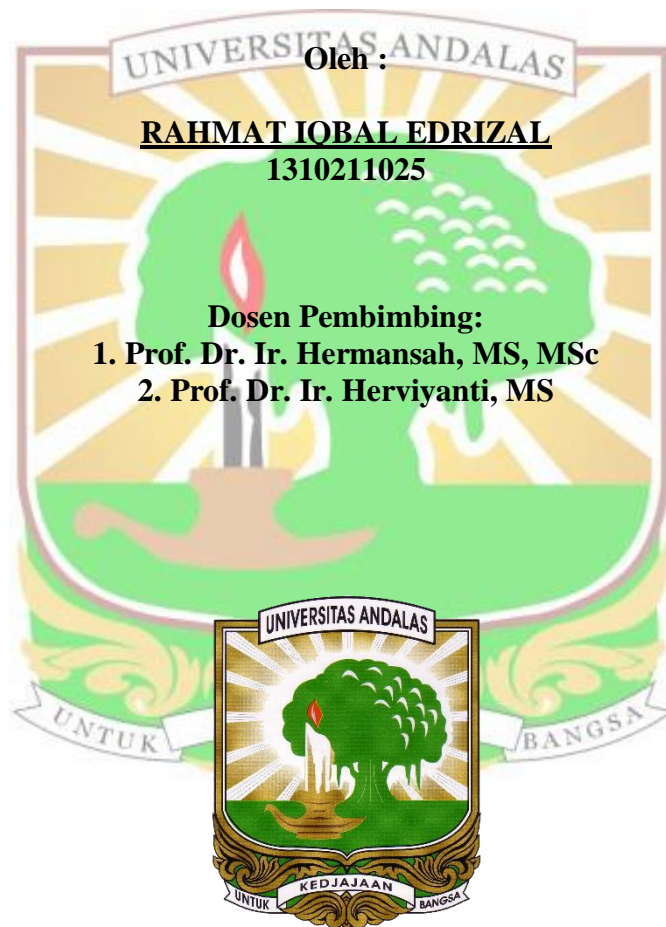


**PENGARUH BEBERAPA CAMPURAN LIMBAH CAIR
PABRIK KELAPA SAWIT TERHADAP SIFAT FISIKA
ULTISOL, PERTUMBUHAN, DAN PRODUKSI KEDELAI
(*Glycine max*)**

SKRIPSI



**FAKULTAS PERTANIAN
UNIVERSITAS ANDALAS
PADANG
2018**

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ABSTRAK

Limbah cair pabrik kelapa sawit merupakan salah satu sumber bahan organik yang belum optimal dimanfaatkan dan merupakan salah satu permasalahan yang dihadapi oleh pabrik kelapa sawit karena kandungan *Biochemical Oxygen Demand* (BOD) dan *Chemical Oxygen Demand* (COD) yang tinggi. Penelitian ini bertujuan untuk mengetahui pengaruh pemberian beberapa campuran limbah cair pabrik kelapa sawit terhadap sifat fisika Ultisol, pertumbuhan, dan produksi kedelai (*Glycine max*). Penelitian ini telah dilaksanakan di Kebun Percobaan Balai Pengkajian Teknologi Pertanian (BPTP) Sitiung, Kabupaten Dharmasraya dan Laboratorium Fisika Tanah Fakultas Pertanian, Universitas Andalas pada bulan Juni 2017 hingga Oktober 2018. Percobaan dilakukan di lapangan menggunakan plot penelitian yang berukuran 2 m x 3 m dengan 10 perlakuan dan 3 ulangan menggunakan Rancangan Acak Kelompok (RAK). Perlakuan yang digunakan adalah beberapa campuran limbah cair (CLC) yaitu : tanpa CLC, CLC-C, CLC-CB1, CLC-CB2, CLC-D, CLC-DB1, CLC-DB2, CLC-Z, CLC-ZB1, dan CLC-ZB2 dengan dosis 15 ton ha⁻¹. Data hasil pengamatan diuji secara statistik berdasarkan uji F pada taraf 5% dan sebagai uji lanjutan dipakai *Duncant New Multiple Range Test* (DNMRT) pada taraf 5%. Hasil penelitian menunjukkan bahwa pemberian campuran limbah cair dolomit dan biochar sekam padi (CLC-DB1) 15 ton ha⁻¹ terbaik dalam meningkatkan beberapa sifat fisika Ultisol seperti bahan organik, dan stabilitas agregat, bobot volume, total ruang pori, permeabilitas, dan kadar air. Sedangkan pemberian campuran limbah cair dolomit (CLC-D) 15 ton ha⁻¹ terbaik dalam meningkatkan pertumbuhan dan produksi tanaman kedelai (*Glycine max*).

Kata kunci : CLC, Kedelai, Limbah cair pabrik kelapa sawit, Ultisol

THE EFFECT OF SOME MIXTURE OF LIQUID WASTE (CLC) OF PALM OIL MILL ON PHYSICAL CHARACTERISTICS OF ULTISOL AND SOYBEAN (*Glycine max*) PRODUCTION

ABSTRACT

Liquid waste of palm oil mill is one source of organic material that has not been optimally utilized and one of problems faced by palm oil mill because the contents of Biochemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) is high. This research was aimed to study the effect of application of some mixture liquid waste of palm oil mill on physical characteristics of Ultisol and soybean (*Glycine max*) production. This experiment was conducted in experimental field, Agricultural Technology Assessment Center (BPTP) Sitiung, Dharmasraya Regency and Laboratory of Soil Science, Faculty of Agriculture Andalas University. It was conducted from June 2017 to October 2018. The experiment was conducted in the field using a research plot sizing 2 m x 3 m with 10 treatments and 3 replications using Randomized Block Design (RAK). The treatments used were some mixture of liquid waste (CLC) that are: without CLC, CLC-C, CLC-CB1, CLC-CB2, CLC-D, CLC-DB1, CLC-DB2, CLC-Z, CLC-ZB1, and CLC-ZB2 with a dose of 15 ton ha⁻¹. The observational data resulted were statistically analysed by F-test at 5% level of significance and continued using Duncant New Multiple Range Test (DNMRT) at 5 % level. Results showed that giving CLC-DB1 15 ton ha⁻¹ was the best physical characteristics of Ultisol such as organic mater, aggregat stability, bulk density, total soil pore, permeability, and water content. While giving CLC-D 15 ton ha⁻¹ was the best dosage in improving soybean (*Glycine max*) production.

Keywords: *CLC, Liquid waste of oil palm mill, Soybean, Ultisol*