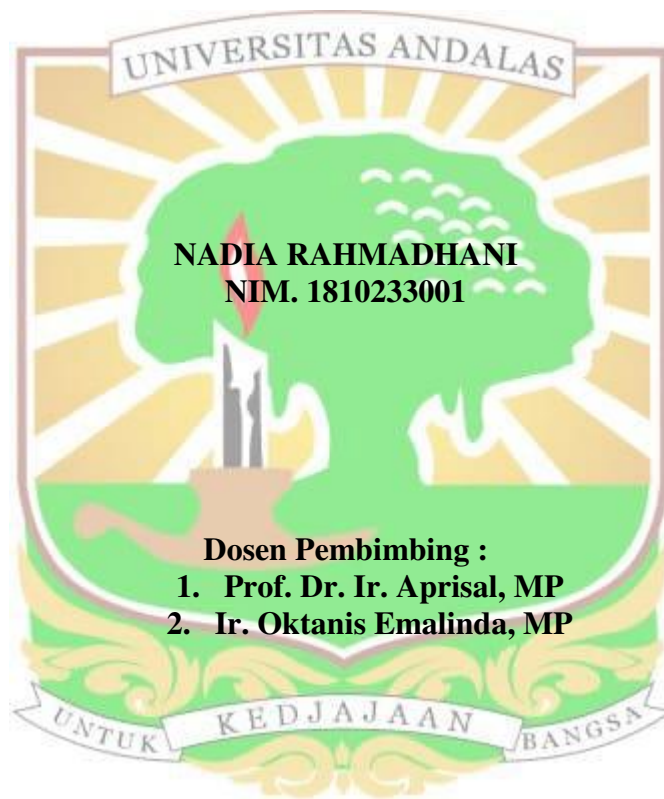


**KAJIAN SIFAT FISIKA TANAH PADA BEBERAPA
PENGUNAAN LAHAN DI DUA LERENG
BAGIAN TENGAH DAS BATANG ULAKAN
KABUPATEN PADANG PARIAMAN**

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SKRIPSI

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Abstrak

Perubahan penggunaan lahan yang disebabkan oleh peningkatan kebutuhan pokok terhadap sumber daya lahan berdampak pada perubahan sifat fisika tanah di bagian tengah DAS Batang Ulakan. Penelitian ini bertujuan untuk mengetahui perbedaan sifat fisika tanah pada beberapa penggunaan lahan dengan dua kelerengan di bagian tengah DAS Batang Ulakan Kabupaten Padang Pariaman. Penelitian ini menggunakan metode survei, pengambilan sampel tanah dilakukan secara *purposive sampling* pada beberapa penggunaan lahan (kebun campuran, semak belukar, dan sawah) dengan kelerengan (8-15% dan 15-25%) dari jenis tanah yang sama (Inceptisol). Analisis sampel tanah dilakukan di Laboratorium Fisika Tanah, Fakultas Pertanian, Universitas Andalas. Parameter yang di analisis terdiri dari tekstur tanah, struktur tanah, bahan organik, berat volume, total ruang pori, dan permeabilitas. Hasil penelitian menunjukkan bahwa karakteristik sifat fisika tanah berbeda pada setiap penggunaan lahan dengan tekstur tanah yang didominasi oleh lempung berdebu dan lempung berpasir. Struktur tanah tergolong granular pada lapisan 0-20 cm dan gumpal membulat pada lapisan 20-40 cm. Bahan Organik dengan nilai tertinggi pada Kebun Campuran (5,91%) dan terendah pada Semak Belukar (1,35%). BV tertinggi pada Kebun Campuran ($1,03 \text{ g/cm}^3$) dan terendah pada Sawah ($0,75 \text{ g/cm}^3$). TRP dengan nilai tertinggi pada Sawah (70,70% volume) dan terendah pada Kebun Campuran (60,24% volume). Permeabilitas dengan nilai tertinggi pada Kebun Campuran (12,05 cm/jam) dan terendah pada Sawah (1,58 cm/jam). Dari hasil tersebut dapat disimpulkan bahwa sifat fisika tanah yang buruk yaitu penggunaan lahan semak belukar yang ditandai dengan kadar bahan organik rendah. Lahan semak belukar sebaiknya dimanfaatkan menjadi lahan pertanian sesuai dengan kaidah konservasi.

Kata kunci : Bagian tengah DAS Batang Ulakan, Penggunaan Lahan, Sifat Fisika Tanah

STUDY ON SOIL PHYSICAL PROPERTIES FROM SEVERAL TYPES OF LAND USE AT TWO SLOPE LEVELS IN THE CENTER OF BATANG ULAKAN WATERSHED PADANG PARIAMAN REGENCY

Abstract

Land use change due to increasing in basic needs for land resources have changed the soil physical properties in the central part of the Batang Ulakan watershed. This study was aimed to find out the differences in soil physical properties at several types of land use at two slope levels in the center of Batang Ulakan watershed, Padang Pariaman Regency. This research was conducted using survey method in which soil was sampled by purposive sampling based on land use (mixed garden, shrubs, and rice field) with two slopes (8-15% and 15-25%) at the same soil type (Inceptisols). Soil samples were analyzed at Soil Physics Laboratory, Faculty of Agriculture, Andalas University. The parameters analyzed were soil texture, soil structure, soil organic matter, bulk density, total soil pore, and permeability. The results showed that the characteristics of the soil physical properties were different at each type of land use with the soil texture was dominated by clay loam and sandy loam. Soil structure was categorized as granular in layers of 0-20 cm and sub angular blocky in layers of 20-40 cm. The highest value of soil organic matter (5.91%) was found at mixed garden and the lowest (1.35%) was at shrubs. The highest value of bulk density (1.03 g/cm^3) was in mixed garden and the lowest (0.75 g/cm^3) was at rice field. The highest value of total soil pore (70.70%) was under rice field and the lowest (60.24%) was under mixed garden. The highest value of permeability (12.05 cm/h) was found at the mixed garden and the lowest (1.58 cm/h) was in the rice field. From these results it could be concluded that the poorest soil physical properties were found under shrub land. Therefore, it was recommended that the shrub land be changed into agriculture land based on conservation rules.

Keyword : Center of Batang Ulakan Watershed, Land use Change, Soil Physical Properties