

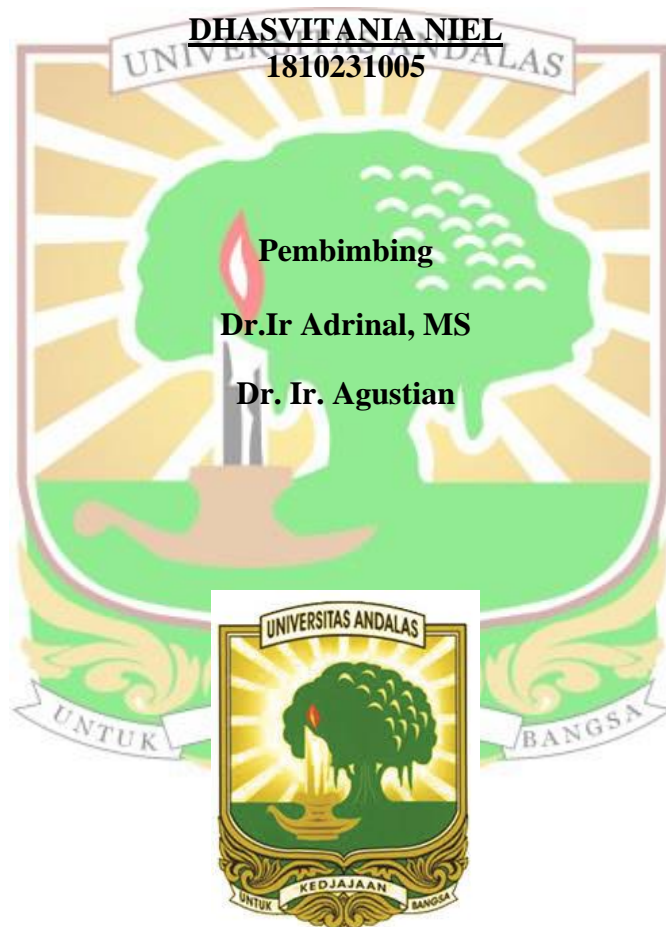
**LAJU INFILTRASI TANAH PADA BEBERAPA
PENGUNAAN LAHAN DI HULU DAS BATANG KANDIS
KOTA PADANG**

SKRIPSI

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ABSTRAK

Hulu DAS Batang Kandis Kecamatan Koto Tangah Kota Padang memiliki intensitas curah hujan yang tinggi dan kadang-kadang dapat melebihi laju dan kapasitas infiltrasi tanahnya, sehingga dapat menyebabkan aliran permukaan dan banjir. Penelitian ini bertujuan untuk mengkaji beberapa sifat fisika tanah dan perbedaan laju infiltrasi pada berbagai penggunaan lahan (Hutan, Perkebunan Sawit, Semak Belukar, dan Tegalan) di Hulu DAS Batang Kandis, dan telah dilaksanakan dari Maret sampai Mei 2022. Metode yang digunakan adalah metode survei dan pengukuran infiltrasi menggunakan metode *Double Ring Infiltrometer*. Analisis tanah dilakukan di laboratorium fisika dan kimia tanah Universitas Andalas. Parameter yang diteliti adalah sifat fisika tanah yaitu laju infiltrasi, tekstur, BV, TRP, permeabilitas, bahan organik tanah. Hasil penelitian menunjukkan bahwa terdapat perbedaan sifat fisika dan nilai laju infiltrasi pada berbagai penggunaan lahan. Tekstur tanah termasuk kelas lempung berdebu. Bahan organik tanah dengan nilai tertinggi pada hutan (5,17 %) dan terendah pada semak belukar (2,29 %). Berat volume tanah tertinggi pada semak belukar ($0,99 \text{ g/cm}^3$) dan yang terendah pada hutan ($0,68 \text{ g/cm}^3$). Total ruang pori tertinggi terdapat pada hutan (74 % Volume) dan terendah pada semak belukar (63 % volume). Permeabilitas tertinggi terdapat pada hutan (11,04 cm/jam) dan terendah pada Tegalan (4,79 cm/jam). Laju infiltrasi tertinggi terdapat pada penggunaan lahan hutan (30,68 cm/jam) dengan kriteria sangat cepat, sedangkan laju infiltrasi terendah pada penggunaan lahan semak belukar (10,81 cm/jam) dengan kriteria agak cepat.

Kata Kunci : Batang Kandis, Double Ring Infiltrometer, Hulu DAS, Infiltrasi

SOIL INFILTRATION RATE IN SOME TYPES OF LAND USE IN THE UPPER BATANG KANDIS WATERSHED PADANG CITY

ABSTRACT

The upstream watershed of Batang Kandis, Koto Tangah District, Padang City has a high intensity of rainfall and sometimes it can exceed the rate and capacity of the soil infiltration, so that it can cause erosion may and floods. This study was aimed to examine some soil physical properties and soil infiltration rates in various types of land use (forest, oil palm plantation, bush, and dry land farming) in the Upper Batang Kandis watershed and was carried out from March to May 2022. The method used was a survey method and infiltration measurement was conducted using the Double Ring Infiltrometer method. Soil analysis was carried out in the soil physics and chemistry laboratory of Andalas University. The parameters studied were the physical properties of the soil, namely soil infiltration rate, texture, bulk density, total soil pore, permeability, and soil organic matter. The results showed that there were differences in physical properties and infiltration rate in various types of land use. The soil texture classified as silt clay. The highest soil organic matter (5.17%) was found under forest and the lowest was in bush (2.29%). The highest content of soil bulk density (0.99 g/cm^3) was in bush and the lowest was in forest (0.68 g/cm^3). The total soil pore was found the highest (74%) in forest and the lowest (63%) in shrub. Permeability with the highest value (11.04 cm/h) was found under forest and the lowest (4.79 cm/h) in the dry land farming. The highest infiltration rate value was found in forest (30.68 cm/h) with very fast criteria, while the lowest (10.81 cm/h) was under bush with rather fast criteria.

Keywords: Batang Kandis, Double Ring Infiltrometer, Infiltration, Upstream Waters

