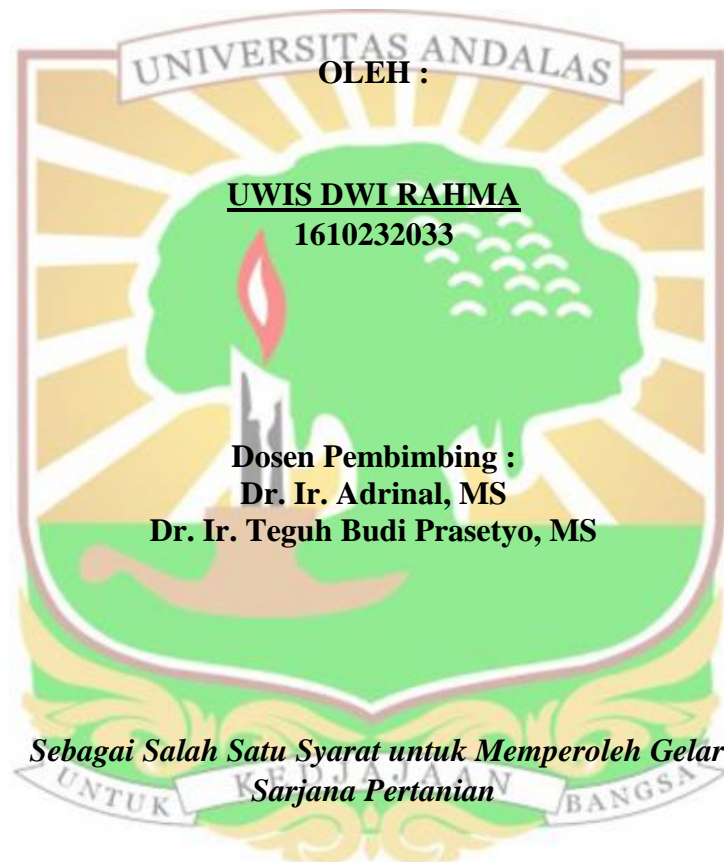


**KEMAMPUAN RETENSI AIR DAN KETAHANAN PENETRASI TANAH  
PADA BERBAGAI PENGGUNAAN LAHAN DI KECAMATAN PULAU  
PUNJUNG KABUPATEN DHARMASRAYA**

**SKRIPSI**



**PROGRAM STUDI ILMU TANAH  
FAKULTAS PERTANIAN  
UNIVERSITAS ANDALAS  
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# KEMAMPUAN RETENSI AIR DAN KETAHANAN PENETRASI TANAH PADA BERBAGAI PENGGUNAAN LAHAN DI KECAMATAN PULAU PUNJUNG KABUPATEN DHARMASRAYA

## Abstrak

Penelitian ini bertujuan untuk mempelajari kemampuan retensi air dan ketahanan penetrasi tanah pada berbagai penggunaan lahan. Penelitian ini dilakukan dengan metode survei di Nagari Gunung Selasih dan Nagari Sungai Kambut, Kecamatan Pulau Punjung, Kabupaten Dharmasraya dari bulan Juli sampai Desember 2020. Pengambilan sampel tanah dilakukan secara *purposive sampling* berdasarkan tipe penggunaan lahan (hutan sekunder, tegalan, kebun campuran, kebun sawit dan kebun karet) dengan jenis tanah dan kelerengan yang sama (Inceptisols dan kemiringan 0-8 %) pada kedalaman 0 – 30 cm dan 30 – 60 cm. Analisis sampel tanah dilakukan di Laboratorium Fisika Tanah, Fakultas Pertanian, Universitas Andalas dan Laboratorium Balai Penelitian Tanah, Bogor. Parameter yang dianalisis sebagai indikator yaitu tekstur tanah, bahan organik, berat volume, total ruang pori, retensi air, kadar air harian, indeks stabilitas agregat, dan penetrasi tanah. Hasil penelitian menunjukkan bahwa kelima penggunaan lahan memiliki karakteristik tanah yang berbeda, sehingga berpengaruh terhadap kemampuan tanah memegang air dan ketahanan penetrasi tanah. Lahan kebun karet dan hutan sekunder memiliki pori air tersedia dengan kriteria sangat tinggi pada kedalaman 0 – 30 cm yaitu masing – masing 26.7% dan 29.1%. Ketahanan penetrasi tanah terus meningkat pada lima penggunaan lahan seiring penurunan kadar air tanah selama 3 hari pada kondisi yang berbeda. Ketahanan penetrasi rata-rata pada berbagai penggunaan lahan dipengaruhi oleh kadar air sebesar 16% pada kedalaman 0 – 30 cm dan 6% pada kedalaman 30 – 60 cm.

Kata kunci: *retensi air, penetrasi tanah, penggunaan lahan, Dharmasraya*

# THE WATER RETENTION CAPABILITIES AND SOIL PENETRATION RESISTANCE ON VARIOUS LAND USE IN PULAU PUNJUNG DISTRICT DHARMASRAYA REGENCY

## Abstract

This study was aimed to determine the water retention capabilities and soil penetration resistance on various type of land use. The research was conducted by survey method in Nagari Gunung Selasih and Nagari Sungai Kambut, Pulau Punjung District, Dharmasraya Regency from July to December 2020. Soil sampling was taken by purposive sampling based on the land use types (secondary forest, dryland farming, mixed gardens, oil palm plantations and rubber plantations) at the same soil type and slope (Inceptisols and slope 0-8 %) at 0 - 30 cm and 30 - 60 cm soil depths. Soil sample analysis was carried out at the Soil Physical Laboratory, Faculty of Agriculture, Andalas University and Soil Research Institute Laboratory, Bogor. The parameters analyzed were soil texture, organic matter, bulk density, total porosity, water retention, daily water content, aggregate stability index, and soil penetration. The results showed that the five types of land use had different soil characteristics, which affected the soil ability to hold water and soil penetration resistance. Rubber plantations and secondary forests had very high available water pores at the 0 – 30 cm soil depth, those were 26.7% and 29.1%, respectively. Soil penetration resistance continued to increase in the five types of land use as the groundwater levels decreased during 3 days observation. Average penetration resistance on the various types of land use was influenced by water content as 16% at the 0 – 30 cm and 6% at the 30 – 60 cm soil depth.

Keywords : *Dharmasraya, land use, soil penetration, water retention.*

