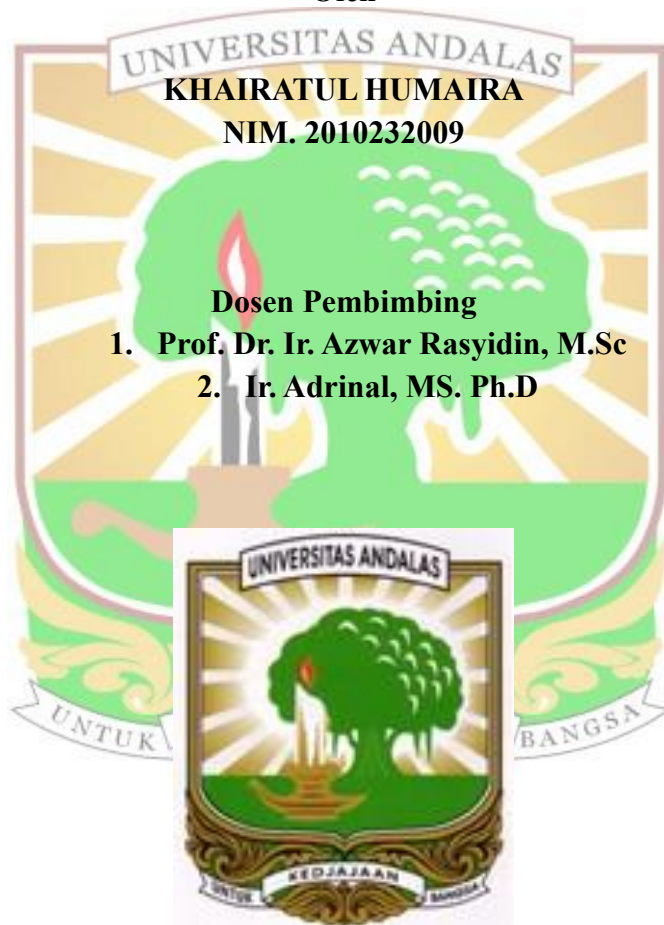


**KAJIAN SIFAT FISIKA TANAH PADA BEBERAPA  
PENGUNAAN LAHAN PERTANIAN DENGAN  
PENGOLAHAN TANAH INTENSIF DI NAGARI KOTO BARU  
KECAMATAN X KOTO**

**SKRIPSI**

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# **KAJIAN SIFAT FISIKA TANAH PADA BEBERAPA PENGUNAAN LAHAN PERTANIAN DENGAN PENGOLAHAN TANAH INTENSIF DI NAGARI KOTO BARU KECAMATAN X KOTO**

## **ABSTRAK**

Sifat fisika tanah dapat berubah terutama akibat penggunaan lahan pertanian dengan pengolahan tanah intensif. Namun, dalam jangka panjang, hal ini dapat merusak tanah. Penelitian ini bertujuan untuk mengkaji sifat fisika tanah pada beberapa penggunaan lahan pertanian dengan pengolahan tanah intensif di Nagari Koto Baru, Kecamatan X Koto, Kabupaten Tanah Datar. Penelitian ini menggunakan metode survei dan pengambilan sampel tanah dilakukan secara purposive sampling berdasarkan 4 penggunaan lahan (sawah, hortikultura, kebun jeruk dan semak belukar), kedalaman 0-20 cm dan kelerengan 0-8%, dengan parameter yang dianalisis adalah tekstur tanah, bahan organik, berat volume, total ruang pori, permeabilitas tanah dan retensi air. Hasil penelitian menunjukkan kandungan bahan organik tanah sedang, kecuali pada sawah tergolong rendah. Berat volume dan total ruang pori tanah tergolong sedang untuk semua penggunaan lahan. Permeabilitas pada lahan hortikultura dan sawah tergolong rendah, sedangkan lahan kebun jeruk dan semak belukar sedang. Nilai pori drainase cepat untuk semua penggunaan lahan tergolong tinggi, yang tertinggi (34,32%) pada lahan semak belukar, untuk pori drainase lambat tergolong rendah hingga sangat rendah, nilai tertinggi (5,46%) pada lahan sawah, serta untuk pori air tersedia tergolong tinggi hingga sedang, nilai tertinggi (19,43%) terdapat pada lahan kebun jeruk. Semakin intensif pengolahan tanah maka kandungan bahan organik semakin rendah, berat volume meningkat, total ruang pori rendah, permeabilitas tanah rendah dan pori air tersedia juga rendah pada penggunaan lahan sawah, semak belukar, dan hortikultura. Berdasarkan hasil penelitian disarankan agar petani melakukan pemberaan, serta melakukan pembenaman sisa hasil panen untuk meningkatkan kandungan bahan organik tanah.

Kata kunci : *pertanian intensif, penggunaan lahan, lereng*

# STUDY ON SOIL PHYSICAL PROPERTIES AT SEVERAL AGRICULTURAL LAND INTENSIVELY CULTIVATED IN NAGARI KOTO BARU, X KOTO DISTRICT

## ABSTRACT

The physical properties of soil can be changed mainly due to the use of agricultural land with intensive tillage. However, in the long term tillage can damage the soil. This study was aimed to examine the physical properties of soil on several intensive agriculture land use in Nagari Koto Baru, X Koto District, Tanah Datar Regency. This study used a survey method and soil was sampled by purposive sampling based on 4 types of land use (rice fields, horticulture, orange orchards, and shrubs), at 0-20 cm soil depth and 0-8% slope. The parameters analyzed were soil texture, organic matter, bulk density (BD), total pore space (TPS), soil permeability, and water retention. The results of the study showed that the content of soil organic matter was moderate, except for the rice fields which were relatively low. The bulk density and total pore space of the soil were classified as moderate for all types of land use. Permeability rate in horticultural land and rice fields was relatively low, while orange orchards and shrubs were moderate. The value of fast drainage pores for all types of land use was relatively high, the highest value (34,32%) was in shrub land, the slow drainage pores was classified as low to very low, the highest value (5,46%) was in rice field land. Plant available water was high to moderate, the highest value (19,43%) was found in orange orchards. The more intensive was the tillage, the lower the organic matter content, the higher the bulk density, the lower the total pore space, the lower the soil permeability rate, and the lower the plant available water was found in the use of rice fields, shrubs, and horticulture. Based on the results of the study, it was recommended that farmers distribute, as well as bury the crop residue to increase the soil organic matter content.

Keywords: *intensive agriculture, land use, slope*