

**KAJIAN SIFAT FISIKA TANAH PADA BEBERAPA
SATUAN LAHAN DI NAGARI LAWANG
KECAMATAN MATUR KABUPATEN AGAM**

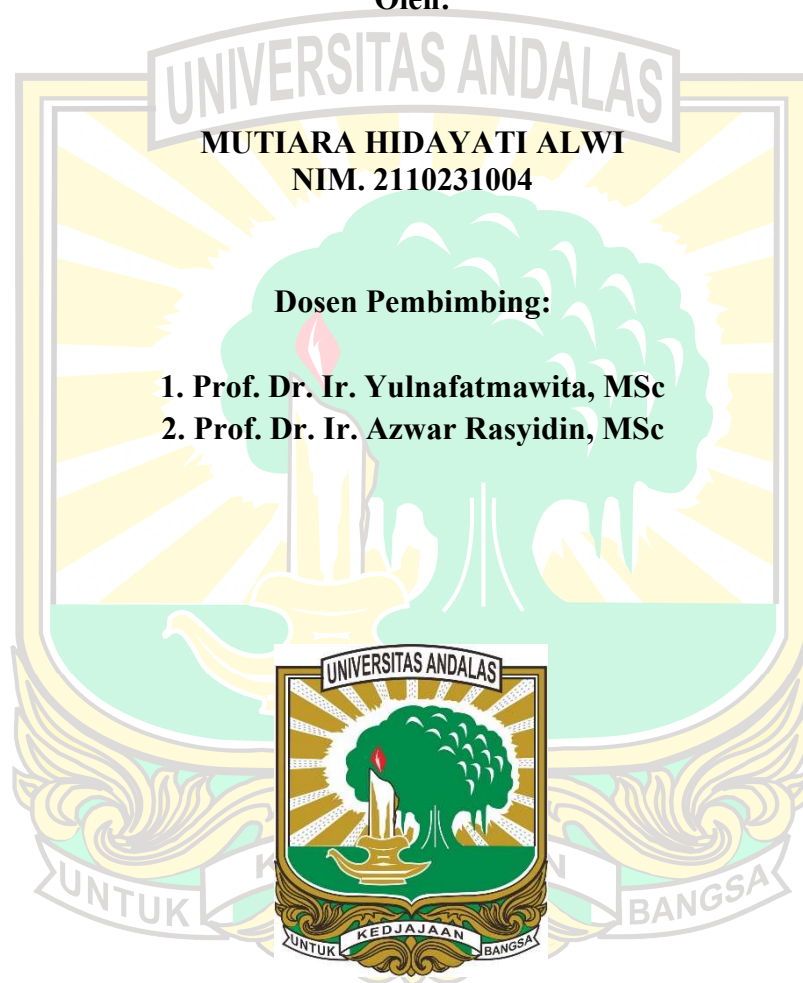
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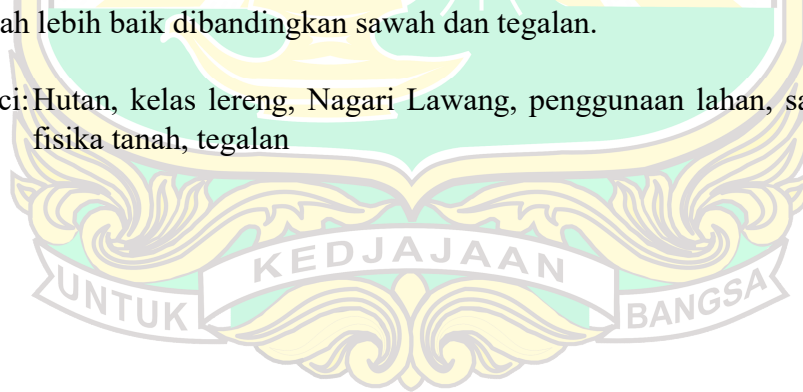
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KAJIAN SIFAT FISIKA TANAH PADA BEBERAPA SATUAN LAHAN DI NAGARI LAWANG KECAMATAN MATUR KABUPATEN AGAM

Abstrak

Sifat fisika tanah memiliki peran penting dalam menentukan produktivitas dan kualitas lahan. Faktor yang mempengaruhi sifat fisika tanah diantaranya adalah penggunaan lahan dan kelas lereng. Penelitian ini bertujuan untuk menganalisis sifat fisika tanah pada beberapa satuan lahan di Nagari Lawang, Kecamatan Matur, Kabupaten Agam. Metode yang digunakan adalah survei dengan pengambilan sampel tanah secara *purposive sampling* berdasarkan penggunaan lahan (hutan, sawah, tegalan) dan kelas lereng (0–8%, 8–15%, 15–25%), sehingga diperoleh 9 satuan lahan. Parameter analisis yang digunakan antara lain tekstur tanah, bahan organik tanah, berat volume (BV), total ruang pori (TRP), dan permeabilitas. Hasil penelitian menunjukkan bahwa tanah di lokasi penelitian didominasi tekstur lempung, lempung berdebu, dan lempung berpasir. Kandungan bahan organik tertinggi terdapat pada lahan Ht.1 sebesar 9,22% dan terendah pada Tg.2 sebesar 6,12%. Berat volume berkisar antara 0,92–1,10 g/cm³ dengan nilai tertinggi pada lahan sawah akibat pelumpuran dan penggenangan. Total ruang pori berkisar antara 56,04–62,81%, dan permeabilitas tanah berkriteria agak lambat pada lahan sawah berkisar antara 1,22–1,90 cm/jam dan agak sedang pada lahan hutan dan tegalan yang berkisar antara 10,06–12,64 cm/jam. Lahan hutan cenderung memiliki sifat fisika tanah lebih baik dibandingkan sawah dan tegalan.

Kata kunci: Hutan, kelas lereng, Nagari Lawang, penggunaan lahan, sawah, sifat fisika tanah, tegalan



SOIL PHYSICAL PROPERTIES ON SEVERAL LAND UNITS IN NAGARI LAWANG MATUR SUBDISTRICT AGAM REGENCY

Abstract

The physical properties of soil is a crucial role in determining land productivity and quality. Land use and slope contribute to the variation in soil physical properties. This research was aimed to analyze soil physical properties across different land units in Nagari Lawang, Matur Subdistrict, Agam Regency. The research was conducted using survey method in which soil was sampled by purposive sampling based on land use type (forest, rice field, dryland farming) and slope class (0–8%, 8–15%, 15–25%), resulting in 9 land units. Parameters analyzed were soil texture, soil organic matter (SOM), bulk density (BD), total soil pore (TSP), and permeability. The results showed that the soils in the research area were predominantly clay, silty clay, and sandy clay in texture. The highest soil organic matter was found in forest land unit Ht.1 (9,22%), while the lowest was in dryland unit Tg.2 (6,12%). Bulk density ranged from 0,92–1,10 g/cm³, with the highest values observed in rice fields due to puddling and waterlogging. Total soil pore ranged between 56,04–62,81%. Soil permeability was classified as moderately slow in the rice fields (1,22–1,90 cm/hour) and moderately rapid in forest and dryland areas (10,06–12,64 cm/hour). Overall, forested land tended to exhibit the best soil physical conditions among the land use type.

Keywords: Dryland, forest, land use, Nagari Lawang, rice field, slope class, soil physical properties

