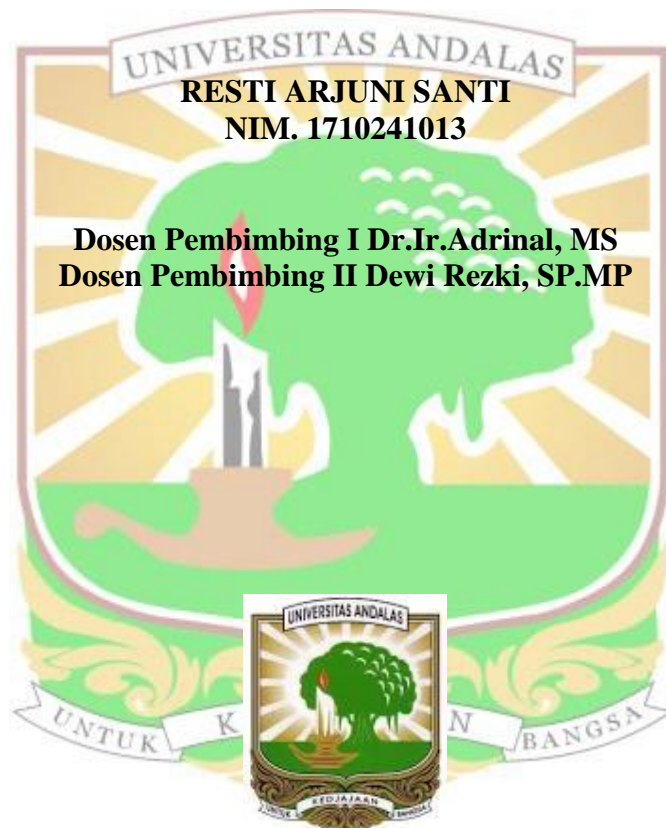


**KAJIAN SIFAT FISIKA TANAH LAHAN BEKAS TAMBANG  
EMAS, LAHAN KEBUN KELAPA SAWIT (*Elaeis Guineensis* Jacq.),  
DAN HUTAN PADA ULTISOL**

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**FAKULTAS PERTANIAN  
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# **KAJIAN SIFAT FISIKA TANAH LAHAN BEKAS TAMBANG EMAS, LAHAN KEBUN KELAPA SAWIT (*Elaeis Guineensis* Jacq.), DAN HUTAN PADA ULTISOL**

## **Abstrak**

Sifat fisika tanah merupakan salah satu komponen kesuburan tanah yang fungsinya sebagai tempat akar berpenetrasi. Penggunaan lahan yang berbeda sangat mempengaruhi sifat fisika tanah terutama terhadap tersedianya air dan udara tanah yang secara tidak langsung mempengaruhi ketersediaan unsur hara dalam tanah. Penelitian mengenai kajian sifat fisika tanah lahan bekas tambang emas, lahan perkebunan kelapa sawit dan hutan telah dilaksanakan pada ordo Ultisol di Nagari Tebing Tinggi Kabupaten Dharmasraya dari bulan April sampai Oktober 2021. Tujuan penelitian ini yaitu untuk mengkaji perbandingan sifat fisika tanah pada lahan bekas tambang emas dengan lahan kelapa sawit dan hutan pada Ultisol. Penelitian ini menggunakan metode survei dengan pengambilan sampel secara purposive sampling pada tiga penggunaan lahan berbeda (lahan bekas tambang emas, lahan kelapa sawit dan hutan) pada kedalaman 0-20 cm dan 20-40 cm dengan 3 ulangan. Parameter yang diamati adalah tekstur tanah, bahan organik, berat volume, total ruang pori tanah, kadar air tanah, permeabilitas, dan stabilitas agregat tanah. Berdasarkan analisis tanah di laboratorium diperoleh bahwa kondisi fisik tanah pada tiga penggunaan lahan berbeda, yaitu kondisi fisik tanah pada lahan kelapa sawit dan lahan hutan lebih baik daripada lahan bekas tambang emas. Tekstur tanah pada lahan bekas tambang emas tergolong kriteria lempung liat berpasir dan lempung berpasir dengan kandungan bahan organik sangat rendah (0,20-1,72 %) dibandingkan lahan kelapa sawit dan lahan hutan. Berat volume pada setiap penggunaan lahan tergolong tinggi dengan total ruang pori tanah rendah kecuali pada lahan kelapa sawit kedalaman, yaitu 0-20 cm 69,93 % vol (tergolong sedang). Permeabilitas tergolong lambat sampai sedang dengan stabilitas agregat tanah tergolong tidak mantap sampai dengan mantap. Kadar air tanah tergolong rendah kecuali pada lahan hutan kedalaman 20-40 cm yang termasuk kriteria sangat tinggi (33,93%).

Kata kunci: penggunaan lahan, kelerengan, analisis tanah, tekstur, berat volume

# **STUDY OF SOIL PHYSICAL PROPERTIES IN EX-GOLD MINING LAND, OIL PALM (*Elaeis Guinensis* Jacq.) PLANTATION, AND FORESTS ON ULTISOL**

## **Abstract**

The soil physical properties are one of the components of soil fertility that function as a place for roots to penetrate. Different types of land uses affect the soil physical properties, especially on the availability of water and soil aeration which indirectly affects the availability of nutrients in the soil. Research on the soil physical properties of ex-gold mining, oil palm plantations and forests was carried out on Ultisol located in Tebing Tinggi Village, Dharmasraya Regency from April until October 2021. The objective of this study was to obtain the comparison of soil physics properties in ex-gold mining land with oil palm and forest land on Ultisol. The method on this study was a survey with purposive sampling on three different land uses (ex- gold mining land, oil palm land and forest) at a depth of 0-20 cm and 20-40 cm and it was replicated 3 times. The observed parameters were soil texture, organic matter, volume weight, soil pore space, soil water content, permeability, and soil aggregate stability. Based on soil analysis in the laboratory, it was obtained that the physical conditions of the soil in three different land uses, i.e the physical condition of the oil palm land and forest were better than the ex-gold mining land. The soil texture on ex-gold mining land was classified on sandy clay loam and sandy loam with a very low organic matter content (0,20-1,72 %) if compared with oil palm and forest land. The volume weight in each land use was relatively high with the total soil pore space was low except in oil palm land depths of 0-20 cm, which is 69,93 % vol (moderate). Permeability was slow to moderate with the soil aggregate stability classified as unstable to steady. Soil water content was relatively low except in forest land depths of 20-40 cm which very high criteria (33,93 %).

**Keywords:** land use, slope, soil analysis, texture, volume weight