

**KAJIAN SIFAT FISIKA TANAH PADA TIGA KELAS
LERENG YANG DITANAMI MANGGIS (*Garcinia mangostana*
L) DI KAMPUNG TEMATIK MANGGIS KELURAHAN
LIMAU MANIS KOTA PADANG**

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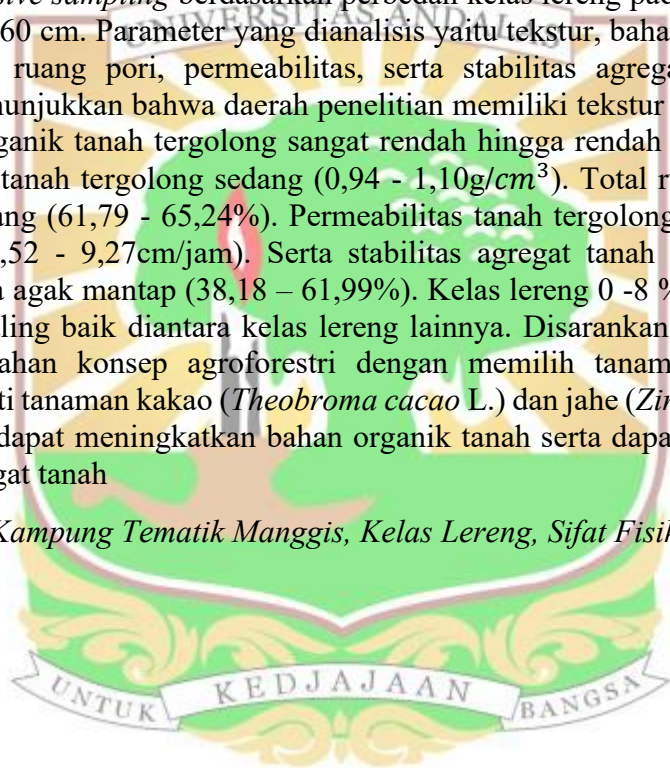
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KAJIAN SIFAT FISIKA TANAH PADA TIGA KELAS LERENG YANG DITANAMI MANGGIS (*Garcinia mangostana* L) DI KAMPUNG TEMATIK MANGGIS KELURAHAN LIMAU MANIS KOTA PADANG

ABSTRAK

Kampung Tematik Manggis merupakan daerah yang berada di Kelurahan Limau Manis Kota Padang dengan kelas lereng yang beragam. Penelitian ini bertujuan menganalisis sifat fisika tanah pada tiga kelas lereng (0 – 8 %, 8 – 15 %, dan 15 – 25 %) yang ditanami Manggis (*Garcinia mangostana* L) di Kampung Tematik Manggis Kelurahan Limau Manis Kota Padang. Penelitian dilakukan menggunakan metode *purposive sampling* berdasarkan perbedaan kelas lereng pada kedalaman 0-30 cm dan 30-60 cm. Parameter yang dianalisis yaitu tekstur, bahan organik, berat volume, total ruang pori, permeabilitas, serta stabilitas agregat tanah. Hasil penelitian menunjukkan bahwa daerah penelitian memiliki tekstur tanah tergolong liat. Bahan organik tanah tergolong sangat rendah hingga rendah (1,37 - 3,99%). Berat volume tanah tergolong sedang ($0,94 - 1,10\text{g/cm}^3$). Total ruang pori tanah tergolong sedang (61,79 - 65,24%). Permeabilitas tanah tergolong sedang hingga agak cepat (2,52 - 9,27cm/jam). Serta stabilitas agregat tanah tergolong tidak mantap hingga agak mantap (38,18 – 61,99%). Kelas lereng 0 -8 % memiliki sifat fisika yang paling baik diantara kelas lereng lainnya. Disarankan agar dilakukan pengelolaan lahan konsep agroforestri dengan memilih tanaman yang tahan naungan seperti tanaman kakao (*Theobroma cacao* L.) dan jahe (*Zingiber officinale* Roscoe) agar dapat meningkatkan bahan organik tanah serta dapat meningkatkan stabilitas agregat tanah

Kata kunci : Kampung Tematik Manggis, Kelas Lereng, Sifat Fisika Tanah



STUDY OF SOIL PHYSICAL PROPERTIES UNDER MANGOSTEEN (*Garcinia mangostana* L.) CULTIVATION ON THREE SLOPE CLASSES IN THE MANGOSTEEN THEMATIC VILLAGE LIMAU MANIS VILLAGE PADANG CITY

ABSTRACT

The Mangosteen Thematic Village is located in Limau Manis Village, Padang City, and is characterized by varying slope classes. This study aimed to analyze the physical properties of soil under mangosteen (*Garcinia mangostana* L.) plantations on three slope classes (0–8%, 8–15%, and 15–25%) in the Mangosteen Thematic Village, Limau Manis Village, Padang City. The research was conducted using a purposive sampling method based on differences in slope classes at soil depths of 0–30 cm and 30–60 cm. The soil physical properties analyzed included soil texture, organic matter content, bulk density, total porosity, permeability, and aggregate stability. The results showed that the soils in the study area were classified as clay in texture. Soil organic matter content ranged from very low to low (1.37–3.99%). Bulk density was classified as moderate, ranging from 0.94 to 1.10 g cm⁻³. Total porosity was also classified as moderate, ranging from 61.79% to 65.24%. Soil permeability ranged from moderate to moderately rapid (2.52–9.27 cm h⁻¹), while aggregate stability ranged from unstable to moderately stable (38.18–61.99%). The 0–8% slope class showed the most favorable soil physical properties among the three slope classes. It is recommended that land be managed using an agroforestry system by integrating shade-tolerant species such as cocoa (*Theobroma cacao* L.) and ginger (*Zingiber officinale* Roscoe), as this approach can enhance soil organic matter content and improve soil aggregate stability.

Keywords: Mangosteen Thematic Village, Slope Class, Soil Physical Properties.

