

**KAJIAN STOK BAHAN ORGANIK TANAH BERDASARKAN
UMUR PENGGUNAAN LAHAN BUDIDAYA TEBU
(*Saccharum officinarum* L.) DI NAGARI LAWANG
KABUPATEN AGAM**

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ABSTRAK

Stok bahan organik tanah memiliki peran penting dalam menjaga kualitas dan kesuburan tanah. Faktor yang mempengaruhi stok bahan organik tanah diantaranya umur lahan dan kedalaman tanah. Penelitian ini bertujuan untuk mengetahui stok bahan organik tanah pada beberapa umur penggunaan lahan budidaya tanaman tebu di Nagari Lawang, Kecamatan Matur, Kabupaten Agam. Penelitian ini menggunakan metode survei, sampel tanah diambil secara *purposive sampling* berdasarkan 4 umur penggunaan lahan (15, 50, 80, dan 100 tahun) dan hutan sebagai pembanding dengan 3 ulangan. Sampel tanah diambil pada kelereng yang sama (0-8%). Parameter analisis yang dianalisis antara lain tekstur, bahan organik, berat volume (BV), total ruang pori tanah (TRP), dan permeabilitas tanah. Hasil penelitian menunjukkan bahwa stok bahan organik tanah di Nagari Lawang mengalami penurunan dengan kedalaman tanah (kedalaman 0-30 cm > 30-60 cm > 60-100 cm). Stok bahan organik total meningkat dengan bertambahnya umur penggunaan lahan. Stok bahan organik tanah sedalam 100 cm pada lahan umur 100 tahun (409,27 ton/ha) > 80 tahun (389,01 ton/ha) > 15 tahun (361,43 ton/ha) > 50 tahun (319,53 ton/ha). Umumnya stok bahan organik tanah pada lahan tebu jauh lebih rendah dari lahan hutan, kecuali lahan budidaya tebu 100 tahun yang sudah mendekati stok bahan organik pada hutan.

Kata kunci: Nagari Lawang, stok bahan organik, tanah, tebu, umur penggunaan lahan



STUDY OF SOIL ORGANIC MATTER STOCK BASED ON LAND USE AGE OF SUGARCANE (*Saccharum officinarum* L.) CULTIVATION IN NAGARI LAWANG, AGAM REGENCY

ABSTRACT

Soil organic matter stock plays an important role in maintaining soil quality and fertility. Factors that influence soil organic matter stock include land usage and soil profile. This study was aimed to determine the soil organic matter stock at several ages of land usage for sugarcane cultivation in Nagari Lawang, Matur District, Agam Regency. This study used a survey method, soil samples were taken by purposive sampling based on 4 types of land usage (15, 50, 80, and 100 years) and forest as a comparison with 3 replications. Soil samples were taken on the same slope (0-8%). The parameters analyzed were soil texture, organic matter, bulk density (BD), total soil pore space (TPS), and soil permeability. The results of the study showed that the stock of soil organic matter in Nagari Lawang decreased with soil depth (depth 0-30 cm > 30-60 cm > 60-100 cm). The total soil organic matter stock increased with increasing land usage. The soil organic matter stock at the soil profile, on land aged 100 years (409.27 tons/ha) > 80 years (389.01 tons/ha) > 15 years (361.43 tons/ha) > 50 years (319.53 tons/ha). Generally, the soil organic matter stock on sugarcane land was much lower than that on forest land, except for 100-year-old sugarcane cultivation land which was approaching the organic matter stock in the forest.

Keywords: Nagari Lawang, soil organic matter stock, Soil, sugarcane, land use age

