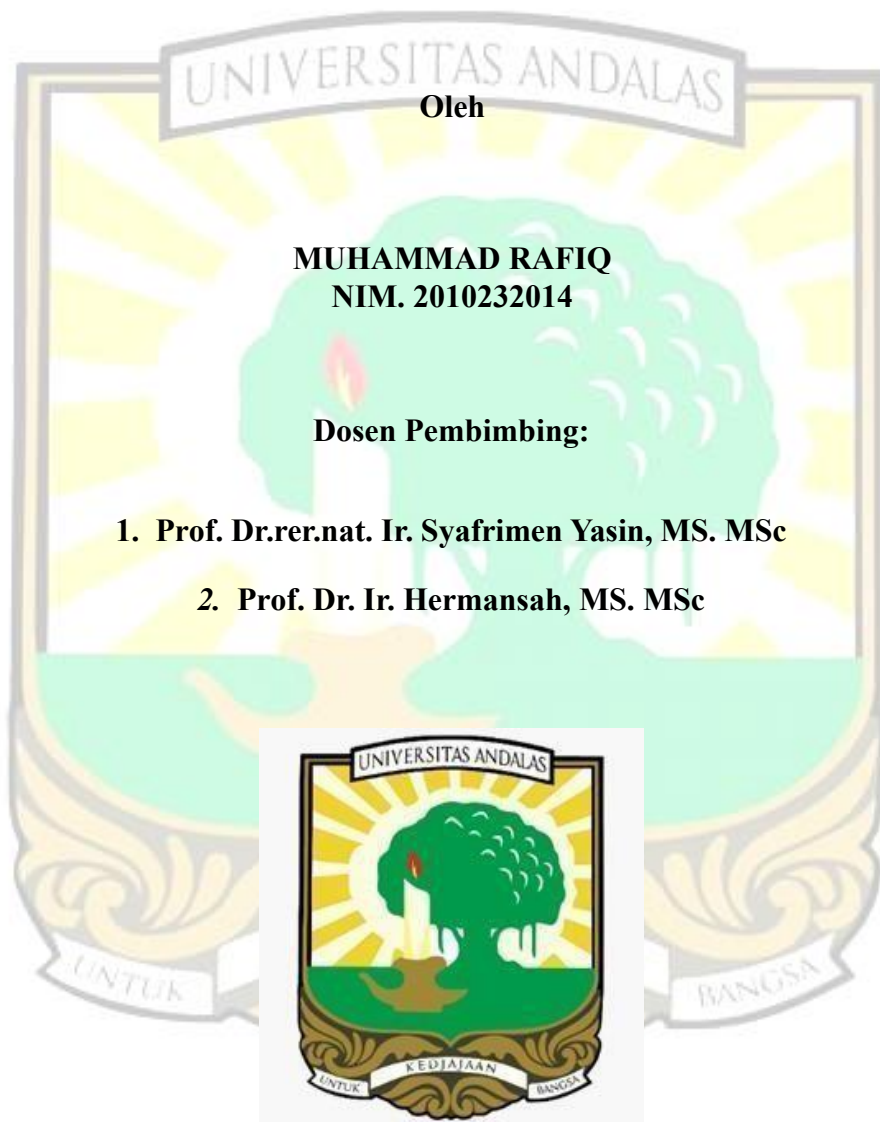


**KAJIAN CADANGAN KARBON TANAH PADA BEBERAPA
UMUR TANAMAN DURIAN (*Durio zibethinus*) DI
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PARIAMAN**

SKRIPSI



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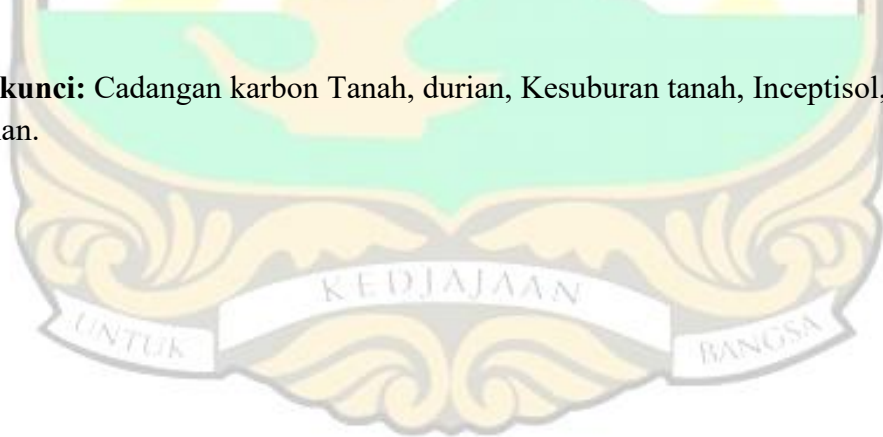
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ABSTRAK

Cadangan karbon tanah merupakan jumlah total karbon organik yang tersimpan dalam tanah. Karbon organik tanah berasal dari dekomposisi bahan organik seperti sisa tanaman, hewan, dan mikroorganisme. Penelitian ini bertujuan mengkaji cadangan karbon organik tanah (C-organik) pada beberapa umur tanaman durian (*Durio zibethinus*) di Kecamatan 2x11 Kayu Tanam, Kabupaten Padang Pariaman. Sampel tanah diambil pada kebun durian berumur 6, 14, dan 24 tahun serta hutan sebagai kontrol, kemudian dianalisis sifat kimia tanahnya meliputi berat volume, pH, C-organik, N-total, P-tersedia, kapasitas tukar kation (KTK), dan basa-basa dapat dipertukarkan. Hasil penelitian menunjukkan bahwa semakin tua umur tanaman durian, semakin tinggi kandungan C-organik, KTK, dan basa-basa tanah akibat kontribusi serasah dan sistem perakaran yang lebih luas. Namun, hutan tetap memiliki cadangan karbon tertinggi. Dengan demikian, umur tanaman durian berpengaruh signifikan terhadap peningkatan cadangan karbon organik tanah, yang berimplikasi pada perbaikan kesuburan lahan serta potensi mitigasi perubahan iklim.

Kata kunci: Cadangan karbon Tanah, durian, Kesuburan tanah, Inceptisol, Umur tanaman.



**STUDY OF SOIL CARBON RESERVES AT VARIOUS AGES OF
DURIAN PLANTS IN THE 2X11 KAYU TANAM SUB DISTRIK, PADANG
PARIAMAN.**

ABSTRACT

Soil carbon reserves are the amount of cations stored in the soil. Soil organic carbon comes from the decomposition of organic matter such as plant, animal, and microorganism remains. This study aimed to assess soil organic carbon (SOC) stocks at different ages of durian (*Durio zibethinus*) plantations in 2x11 Kayu Tanam Sub-district, Padang Pariaman Regency. Soil samples were collected from durian stands aged 6, 14, and 24 years, with forest land as a control, and analyzed for bulk density, pH, SOC, total N, available P, cation exchange capacity (CEC), and exchangeable bases. The results showed that older durian plantations had higher SOC, CEC, and base cations due to greater litter input and deeper root systems, while forest land retained the highest SOC overall. These findings indicate that plantation age significantly influences soil carbon storage, enhances soil fertility, and contributes to climate change mitigation.

Keywords: *Durian, Inceptisol, Soil carbon stock, Plant age, Soil fertility.*

