

**AKUMULASI C-ORGANIK TANAH PADA TEGAKAN
EUKALIPTUS DENGAN UMUR BERBEDA DI KHDTK
WANAGAMA I, KABUPATEN GUNUNGKIDUL**

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INTISARI

Hutan mampu menyerap karbondioksida (CO₂) melalui fotosintesis dan menghasilkan biomassa. Biomassa yang terdekomposisi tersimpan sebagai karbon organik di dalam tanah. Nilai karbon organik dipengaruhi oleh perbedaan umur tegakan dan kedalaman tanah. Penelitian ini dilakukan untuk mengetahui akumulasi C-organik tanah pada tegakan eukaliptus dengan umur berbeda di KHDTK Wanagama I, Kabupaten Gunungkidul.

Pengumpulan data berupa sampel tanah dilakukan pada 3 tegakan, meliputi tegakan eukaliptus umur 24, 28, dan 37 tahun. Sampel tanah terdiri atas tanah terusik dan tidak terusik dari 3 kedalaman tanah, yaitu 0-10 cm, 10-20 cm, dan 20-30 cm. Pengujian kadar C-organik tanah dilakukan dengan metode *Walkley and Black* serta nilai akumulasi C-organik tanah diperoleh dengan perhitungan berat volume tanah dan berat C. Analisis data dilakukan secara deskriptif kuantitatif.

Hasil penelitian menunjukkan nilai akumulasi C-organik tanah pada tegakan eukaliptus umur 24, 28, dan 37 tahun secara berturut-turut adalah 23,70 ton/ha, 22,91 ton/ha, dan 23,59 ton/ha. Nilai ini bergantung pada kadar C-organik dan berat volume tanah. Berat volume tanah menurun seiring dengan semakin dalam lapisan tanah, dengan nilai masing-masing pada kedalaman 0-10 cm, 10-20 cm, dan 20-30 cm adalah 30,08 ton/ha, 22,17 ton/ha, dan 17,92 ton/ha.

Kata Kunci: C-Organik Tanah, KHDTK Wanagama I, Eukaliptus

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**SOIL C-ORGANIC ACCUMULATION IN DIFFERENT AGES
EUCALYPTUS STANDS IN KHDTK WANAGAMA I,
GUNUNGKIDUL REGENCY**

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ABSTRACT

Forests are able to absorb carbon dioxide (CO₂) through photosynthesis and produce biomass. Decomposed biomass is stored as soil C-organic. The value varies based on stand age and soil depth. This study was conducted to determine the accumulation of soil C-organic in different ages eucalyptus stands in Forest Areas with Special Purpose (KHDTK) Wanagama I, Gunungkidul Regency.

Soil sample data collection was conducted in three eucalyptus stands aged 24, 28, and 37 years. The soil sample consisted of disturbed and undisturbed soils from three soil depths: 0-10 cm, 10-20 cm, and 20-30 cm. The measurement of soil C-Organic content was conducted using the Walkley and Black method, then the measurement of soil C-organic accumulation was done by measuring soil volume weight and carbon weight. Data analysis was carried out using quantitative descriptive analysis.

The results showed that the soil C-organic accumulation in eucalyptus stands aged 24, 28, and 37 years was 23.70 tons/ha, 22.91 tons/ha, and 23.59 tons/ha. This value depends on the soil C-organic and soil volume weight. The soil volume weight decreases as the soil deepens, with the values at depths of 0-10 cm, 10-20 cm, and 20-30 cm was 30.08 tons/ha, 22.17 tons/ha, and 17.92 tons/ha.

Keywords: *Soil C-Organic, Forest Areas with Special Purpose (KHDTK) Wanagama I, Eucalyptus*

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