

Kandungan Bahan Organik Tanah di Bawah Tegakan Gamal (*Gliricidia sepium*) pada Umur 26 dan 42 Tahun Hutan Wanagama I Gunung Kidul

INTISARI

Tanah dapat terbentuk dari akumulasi bahan organik yang berasal dari hasil dekomposisi seresah. Petak 5 dan 6 Hutan Wanagama I didominasi oleh tanaman gamal. Gamal ditanam di petak tersebut sebagai upaya rehabilitasi lahan kritis. Tegakan gamal pada petak 5 dan 6 memiliki umur tegakan yang berbeda, sehingga kemungkinan ada perbedaan kandungan bahan organik di dalam tanah. Penelitian ini dilakukan untuk mengetahui kandungan bahan organik tanah di bawah tegakan gamal pada kedalaman tanah, kelerengan dan tingkatan umur yang berbeda.

Penelitian ini dilakukan dengan metode survei pada tegakan gamal di petak 6 (26 tahun) dan 5 (42 tahun) yang tumbuh di tanah Entisol (Lithosol) yang didominasi oleh lempung smektit. Dalam setiap petak terdapat 3 plot yang dibuat untuk mewakili 3 posisi kelerengan (atas, tengah dan bawah) dan setiap petak diulang sebanyak 3 kali. Pengambilan sampel tanah dilakukan pada 3 kedalaman tanah (0-10, 10-20 dan 20-30 cm) di 2 titik pengambilan sampel tiap plot. Setiap sampel tanah dianalisis kandungan C (bahan organik) menggunakan metode Walkley and Black. Analisis regresi digunakan untuk menentukan hubungan kandungan bahan organik tanah dengan kedalaman tanah, analisis deskriptif untuk menentukan bahan organik di setiap kelerengan dan analisis uji T untuk menentukan kandungan bahan organik di tingkatan umur yang berbeda.

Kandungan bahan organik tanah di bawah tegakan Gamal termasuk dalam kategori sangat tinggi. Kandungan bahan organik tanah tertinggi terdapat pada kedalaman 0-10 cm (8,7-12,3 %), diikuti kedalaman 10-20 cm (3,84-5,82 %) dan 20-30 cm (3,63-5,99 %). Kandungan bahan organik pada setiap kelerengan bervariasi. Jumlah kandungan bahan organik tanah menunjukkan hasil yang tidak berbeda nyata pada tingkatan umur yang berbeda. Perbedaan umur tidak berpengaruh dalam ketersediaan bahan organik tanah.

Kata kunci : *Gliricidia sepium*, bahan organik, kedalaman tanah, kelerengan, perbedaan umur

Soil Organic Matter Content Under Gamal (*Gliricidia sepium*) Stand at Age 26 and 42 Years in Wanagama I Forest, Gunungkidul

ABSTRACT

Soil can be formed from the accumulation of organic matter which derived from litter decomposition. Compartments 5 and 6 Wanagama I were dominated by Gamal that was planted initially to rehabilitate the critical land. Gamal stands in compartments 5 and 6 have different age, so there might be different in its soil organic matter content. This research was conducted to determine soil organic matter content under gamal stands in different soil depth, slope and age levels.

This research was conducted using survey method. Compartments 6 (26 years old) and 5 (42 years old) which growing on the Entisol (Litosol) soil dominated by smectite clay. In each compartment 3 plots were established to represent 3 different slope positions (upper, middle and lower) and the plots were replicated 3 times. Soil samples were taken from 3 soil depths (0-10, 10-20 and 20-30 cm) in 2 sampling points per plot. Each soil sample was analyzed for C (organic matter) content using Walkley and Black method. Regression analysis was used to determine relation between soil organic matter content with soil depth, descriptive analysis was used to determine soil organic matter content in each slope and T test analysis was used to determine soil organic matter content in different age stands.

Soil organic matter content under gamal stands were categorized very high. The highest soil organic matter content was found at 0-10 cm (8,7 to 12,3%), followed by 10-20 cm (3,84 to 5,82%) and 20-30 cm (3,63 to 5,99%). The amount of organic matter content on any slope varied. The amount of soil organic matter showed no significant different in the different age levels. The differences of age levels didn't affect soil organic matter availability.

Key words : *Gliricidia sepium*, soil organic matter, soil depth, slope, different ages