POTENSI KANDUNGAN KARBON POHON JATI DI HUTAN RAKYAT DESA JATIMULYO, KARANGANYAR

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INTISARI

Penelitian ini bertujuan untuk mengestimasi kandungan biomassa dan kandungan karbon jenis jati di hutan rakyat Desa Jatimulyo, Kecamatan Jatipuro, Karanganyar. Penelitian ini menggunakan metode *purposive sampling*. Penaksiran kandungan karbon di hutan rakyat dilakukan pada masing-masing organ pohon jenis jati yaitu , batang, cabang, dan daun dalam biomassanya.

Metode yang digunakan dalam pengambilan data, yaitu pohon yang dipilih sebagai sampel ditebang dan dipisah menurut bagian organnya terutama bagian organ di atas tanah (batang, cabang dan daun). Kemudian diambil sampel dari setiap bagian organ tanaman yang dapat mewakili untuk dianalisis kandungan biomassa dan karbonnya. Untuk mengetahui kandungan biomassa tiap organ, sampel ditimbang terlebih dahulu berat basahnya, dioven dengan suhu 103 ± 2^0C sampai beratnya konstan. Biomassa pohon merupakan penjumlahan dari biomassa tiap organ pohon. Untuk mengetahui kandungan karbonnya, sampel yang sudah kering tanur tersebut diarangkan dan dilakukan analisis kadar air, analisis zat mudah menguap dan analisis kadar abu. Kandungan karbon pohon merupakan penjumlahan dari kandungan karbon tiap organ pohon. Dilakukan analisis hubungan diameter dengan kandungan karbon melalui metode allometrik, maka diperoleh persamaan yang akan diterapkan untuk menaksir kandungan karbon dalam kawasan hutan yang masih berdiri (*standing stock*).

Dari analisis yang dilakukan menghasilkan persamaan allometrik yang menggambarkan hubungan antara biomassa (B) dengan diameter (Dbh) yaitu $B = 0{,}0573\ (D)^{2{,}5251}$ ($n=10;R^2 = 0{,}9805;p(sig.)=0{,}000$), dan hubungan $C = 0{,}0143\ (D)^{2{,}4686}$ ($n=10;R^2 = 0{,}9739;p(sig.)=0{,}000$). Persamaan-persamaan allometrik tersebut selanjutnya digunakan untuk menaksir potensi biomassa dan kandungan karbon pada hutan rakyat jenis jati di Desa Jatimulyo, Kecamatan Jatipuro, Kabupaten Karanganyar, sehingga diketahui potensi biomassa sebesar 27,87 ton/ha dan kandungan karbon sebesar 6,01 ton/ha.

Kata Kunci : karbon, hutan rakyat, jati, persamaan allometrik

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CARBON STOCKS POTENTION OF TEAK TREES IN COMMUNITY FOREST IN JATIMULYO VILLAGE, JATIPURO DISTRICT, KARANGANYAR

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ABSTRACT

This research was carried out in Jatimulyo Village, Jatipuro District, Karanganyar. The sampling method used purposive sampling. Some of organs of teak plants such as trunk, branch, and leaf were taked for sample in this research. Furthermore, this sample had brought to the laboratory for analyzed its biomass and carbon contents by dried and carbonized it.

Method used in data collection included cutting tree selected as sample and separated into its organs especially aboveground organs (stem, branch, and leaf). Then, sample of each organ was taken that can represent to analyze its biomass and carbon content. To get biomass content of each organ, wet weight of the sample was measured, and then it was dried with oven at 103 ± 2^0C until reaching constant weight. Tree biomass is sum of biomass of each organ. To identify its carbon content, sample that have been oven-dried was made charcoal and analysis of water content, evaporable agent and ash content analyses were done. Carbon content of tree is sum of carbon content of each tree organ. Analysis of relationship of diameter and carbon content was done through allometric method, which resulted in equation that would be applied to estimate carbon content in standing stock area.

The analysis resulted allometric equation that determines relation between biomass (B) to diameter (Dbh) that is $B = 0{,}0573\ (D)^{2{,}5251}$ ($n=10; R^2 = 0{,}9805; p(sig.)=0{,}000$), and relation between carbon contents (C) to diameter that is $C = 0{,}0143\ (D)^{2{,}4686}$ ($n=10; R^2 = 0{,}9739; p(sig.)=0{,}000$). The allometric equations are used for estimating biomass and carbon stocks potentions ini community forest of teak in Jatimulyo village, Jatipuro District, Karanganyar, so known that its biomass potention as 27,87 ton/ha and carbon stocks potentions as 6,01 ton/ha.

Keywords: carbon, community forest, teak tree, allometric equation

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