STRUKTUR ANATOMI DAN DIMENSI SERAT PADA ARAH AKSIAL DAN RADIAL KAYU GANITRI (*Elaeocarpus ganitrus* Roxb.) DARI KABUPATEN WONOSOBO

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INTISARI

Luas hutan di Indonesia terus menurun dari tahun 2010-2015 dan berdampak pada menurunnya produktifitas hasil hutan kayu. Sementara kebutuhan kayu sebagai bahan baku industri perkayuan terus meningkat. Untuk memenuhi kebutuhan bahan baku industri perkayuan, dilakukan penanaman tanaman *fast growing species* di hutan hutan rakyat. Hutan rakyat di Kabupaten Wonosobo banyak ditanami tanaman ganitri, tetapi penelitian mengenai anatomi kayunya belum banyak dilakukan. Oleh karena itu diperlukan penelitian mengenai sifat anatomi kayu ganitri agar penggunaan kayunya dapat optimal. Penelitian ini bertujuan untuk mengetahui struktur anatomi dan dimensi serat pada arah aksial dan radial kayu ganitri.

Penelitian ini menggunakan model rancangan acak lengkap (RAL) dengan dua faktor yaitu arah aksial dari pangkal, tengah dan ujung batang serta arah radial dari dekat hati, tengah dan dekat kulit dengan tiga kali ulangan pada masing-masing faktor. Parameter yang diamati meliputi ciri makroskopis dan mikroskopis kayu ganitri dengan parameter uji meliputi proporsi sel (serabut, pembuluh, jari-jari, dan parenkim) dan dimensi serat (panjang serat, diameter serat, diameter lumen dan tebal dinding serat). Hasil parameter uji selanjutnya dianalisis variasinya dengan menggunakan program statistik SPSS.

Penelitian ini menunjukkan lingkaran tahun kayu ganitri tidak terlihat secara makroskopis. Kayu ganitri memiliki persebaran pembuluh tunggal dan ganda radial dengan rerata jumlah persebaran pembuluh 16/mm^2. Kayu ganitri memiliki jenis jari-jari berseri satu, dua, dan tiga. Persebaran parenkim difus berkelompok, arah serat lurus dan tidak terdapat saluran damar. Rata-rata proporsi sel serabut, pembuluh, jari-jari dan parenkim berturut-turut sebesar 65,79%; 15,11%; 12,99%; dan 6,12%. Rata-rata panjang serat, diameter serat, diameter lumen dan tebal dinding serat berturut-turut sebesar 1,04 mm; 17,07 µm; 13,23 µm dan 1,97 µm. Faktor arah aksial dan radial tidak berbeda nyata terhadap proporsi sel dan dimensi serat.

Kata kunci : ganitri, arah aksial, arah radial, struktur anatomi, dimensi serat

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ANATOMICAL PROPERTIES AND FIBER DIMENSION ON AXIAL AND RADIAL DIRECTION OF *Elaeocarpus ganitrus* Roxb. FROM WONOSOBO REGENCY

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ABSTRACT

The decreased of Indonesian forest has a direct effect to forest wood productivity. Besides that, the demand of wood as industrial raw material was increasing. To fill up the demand of wood industrial raw material, planting of fast growing species trees was needed at state and community forest. *Elaeocarpus ganitrus* trees is massively planted at Wonosobo Regency community forest. However the study on anatomy characteristic from this wood is rarely conducted. Therefore, the study about wood anatomical properties of *Elaeocarpus ganitrus* is needed in order to optimize the wood utilization. This study aimed to know the variation of cell proportion and fiber dimension on axial and radial direction.

This study used completely randomized design with 2 factors, they were axial direction from base, in the middle and end, and radial direction from near the pith, in the middle and near the bark with 3 replications for each factor. The parameter observed were macroscopic and microscopic characteristics of *Elaeocarpus ganitrus* wood with parameter tested i.e. cell proportion (fiber, vessel, ray cell, and parenchyma) and fiber dimension (fiber length, fiber diameter, lumen diameter and fiber wall thickness). The result of parameters tested were analyzed using the SPSS statistical program.

This study showed the growth ring was not appear in macroscopic of *Elaeocarpus ganitrus* wood. *Elaeocarpus ganitrus* wood had solitary and radial multiple vessels with 16/mm^2 frequency. *Elaeocarpus ganitrus* wood had three kinds of ray cells was 1-3 seriates. Axial parenchyma was diffuse in aggregates, straight grain and hasn't resin canal. The proportion of fiber, vessel, ray cell, and parenchyma were 65.79%; 15.11%; 12.99%; and 6.12%. The fiber length, fiber diameter, lumen diameter and fiber wall thickness were 1.04 mm; 17.07 µm; 13.27 µm and 1.97 µm. The axial and radial direction factors were not significantly different from cell proportion and fiber dimension.

Keywords : *Elaeocarpus ganitrus* , axial direction, radial direction, anatomical properties, fiber dimension

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