

**VARIASI AKSIAL DAN RADIAL SIFAT FISIKA DAN DIMENSI SERAT KAYU  
BUS MERAH (*Lophostemon suaveolens* Soland ex Gaertn.)  
YANG TUMBUH DI MERAUKE**

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**INTISARI**

Permintaan bahan baku kayu semakin tinggi sehingga harga kayu meningkat. Meskipun demikian, kebutuhan akan bahan baku kayu masih kurang. Disisi lain, Indonesia masih memiliki jenis-jenis kayu yang melimpah untuk dijadikan bahan baku kayu. Akan tetapi informasi mengenai jenis kayu tersebut masih terbatas. Salah satunya jenis kayu bus merah yang tumbuh di Merauke. Agar pemanfaatan kayu dapat optimal, maka perlu diketahui sifat fisika dan dimensi serat kayunya.

Penelitian ini menggunakan rancangan acak lengkap dengan dua faktor dan tiga ulangan yaitu kedudukan aksial (pangkal, tengah, dan ujung) dan radial (dekat empulur, tengah, dan dekat kulit). Apabila hasil analisis keragamannya berbeda nyata kemudian dilakukan uji lanjut dengan uji HSD (*Honestly Significant Difference*).

Hasil penelitian ini menunjukkan bahwa nilai rerata kadar air segar, kadar air basah dan kadar air kering udara sebesar 73,64%, 55,49% dan 14,23%. Berat jenis volume segar, berat jenis volume basah, berat jenis volume kering udara, dan berat jenis volume kering tanur sebesar 0,70, 0,69, 0,75 dan 0,82. Penyusutan longitudinal, tangensial, dan radial dari kondisi basah sampai kering udara sebesar 0,21%, 5,06% dan 2,75% serta rasio T/R sebesar 1,84. Penyusutan longitudinal, tangensial, dan radial dari kondisi basah sampai kering tanur sebesar 0,44%, 8,83%, dan 5,85% serta rasio T/R sebesar 1,51. Pengembangan longitudinal, tangensial, dan radial dari kondisi kering udara sampai basah sebesar 0,33%, 4,78%, dan 2,93% serta rasio T/R sebesar 1,67. Sifat dimensi serat yang meliputi panjang serat, diameter serat, diameter lumen, dan tebal dinding serat rata-ratanya sebesar 1,09 mm, 15,53  $\mu\text{m}$ , 7,76  $\mu\text{m}$ , dan 3,94  $\mu\text{m}$ . Proporsi sel serabut 54,95%, sel parenkim 5,84%, sel pembuluh 14,54% dan sel jari-jari 24;67%. Interaksi antara kedudukan aksial dan radial kayu dalam pohon kayu bus merah yang berpengaruh nyata tidak ada. Kedudukan aksial kayu dalam pohon berpengaruh nyata terhadap parameter yang diteliti yakni kadar air kering udara dan panjang serat. kedudukan radial kayu dalam pohon berpengaruh sangat nyata terhadap kadar air basah, berat jenis kering udara, berat jenis kering tanur, penyusutan radial dari kondisi basah-kering udara serta berpengaruh nyata terhadap berat jenis basah penyusutan tangensial dan radial kondisi basah-kering udara, penyusutan tangensial dan radial kondisi basah-kering tanur serta tebal dinding sel. Kedudukan radial berpengaruh sangat nyata terhadap panjang serat.

Kata kunci: bus merahi, sifat fisika, sifat dimensi serat, letak aksial, letak radial

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## AXIAL AND RADIAL VARIATION OF PHYSICAL AND FIBER DIMENSION OF BUS MERAH WOOD (*Lophostemon suaveolens* Soland ex Gaertn.) THAT GROWTH IN MERAUKE

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### ABSTRACT

The increase in timber request causes the increase in timber price. However in other side, Indonesia has a tremendous amount of wood species to be utilized as raw material. Unfortunately there is still less information available about these species such as Bus merah which growth in Merauke. Knowing physical and fiber dimension value will be necessary to make the utilization of this wood more optimum.

This research used completely randomized design with two factors and three repetitions which are axial position (bottom, middle and top) and radial positions (near pith, middle and near bark). In further examination, HSD (Honestly Significant Difference) was conducted as further test on finding significant differences from diversity analysis.

The result of the research showed that the average value of moisture content on green, wet and air dry condition are 73,64%, 55,49% and 14,23%. In specific gravity this research resulted the value on green, wet, air-dry and oven-dry weight are 0,70, 0,69, 0,75 and 0,82. The shrinkage on three different directions (longitudinal, tangential, and radial) from wet to air air-dry are 0,21%, 5,06% dan 2,75% with the T/R ration is 1,84, while the shrinkage on air-dry to oven-dry are 0,33%, 4,78%, dan 2,93% with T/R ratio is 1,67. Fiber dimension stands by fiber length, fiber diameter, lumen diameter, and wall thickness showed in average value are 1,09 mm, 15,53  $\mu\text{m}$ , 7,76  $\mu\text{m}$ , dan 3,94  $\mu\text{m}$ . The proportion of cell fiber are 54,95% of parenchyma, 14,54 % of vessel ,24,67 % of rays. Other information founded was that no significant influence resulted from axial and radial interaction. The axial position within the tress significantly influenced the examined parameters which were moisture content in air-dry condition and fiber length. The radial position influenced significantly several physical properties of the wood which were wet basis moisture content; air-dry basis specific gravity; oven-dry basis specific gravity, radial shrinkage from wet to air dry condition; wet basis specific gravity; tangential and radial shrinkage under condition of wet to air-dry; wet to oven-dry, also to the wall thickness of cell and also length fiber.

Keywords : bus merah, physical properties, fiber dimension properties, axial and radial position.

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