

VARIASI SIFAT FISIKA DAN DIMENSI SERAT KAYU FLAMBOYAN (*Delonix regia* (Hook.) Raf.) BERDASARKAN KEDUDUKAN AKSIAL DAN RADIAL

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INTISARI

Flamboyon merupakan pohon jenis cepat tumbuh yang mudah ditemukan di beberapa daerah, salah satunya di kabupaten Bantul, Yogyakarta. Kayu flamboyon memiliki tampilan yang menarik namun informasi mengenai kualitas kayu ini masih terbatas. Eksplorasi terhadap kualitas kayu flamboyon diharapkan mampu memperluas kemungkinan penggunaan kayu flamboyon sebagai beberapa produk kayu lain. Penelitian ini dilakukan untuk mengetahui kualitas kayu flamboyon yang tumbuh di Kabupaten Bantul, melalui sifat fisika dan dimensi serat dengan menebang tiga batang pohon yang bebas cacat. Penelitian menggunakan rancangan acak lengkap dengan dua faktor yaitu kedudukan radial (dekat hati, tengah dan dekat kulit) dan kedudukan aksial (pangkal, tengah dan ujung). Sifat fisika kayu yang diuji meliputi kadar air, berat jenis, dan perubahan dimensi menggunakan *British Standard Method* 373 tahun 1957 sebagai standar acuan sedangkan untuk dimensi serat mengacu pada IAWA 1989, parameter yang diuji antara lain panjang serat, diameter serat, diameter lumen dan tebal dinding serat. Hasil pengamatan menunjukkan bahwa kayu flamboyon memiliki rerata kadar air segar, kadar air kering udara, dan berat jenis secara berturut-turut sebesar 107,10%, 16,93%, dan 0,379. Rerata penyusutan longitudinal, radial dan tangensial dari kondisi segar ke kering udara sebesar 0,322%, 1,75%, dan 2,51% dengan T/R sebesar 1,97 serta dari kondisi segar ke kering tanur sebesar 0,433%, 2,57%, 4,11% dengan T/R sebesar 2,05. Pengembangan longitudinal, radial, dan tangensial dari kondisi kering udara ke basah sebesar 0,526%, 1,24% dan 2,13%. Rerata panjang serat, diameter serat, diameter lumen, dan tebal dinding serat secara berturut-turut sebesar 939,97 μm , 26,68 μm , 21,63 μm , dan 2,52 μm . Kedudukan radial, memberikan pengaruh nyata terhadap nilai kadar air segar, berat jenis, dan panjang serat, sedangkan interaksi kedudukan radial dengan kedudukan aksial tidak memberikan pengaruh.

Kata kunci: flamboyon, kadar air, berat jenis, perubahan dimensi, dimensi serat

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**PHYSICAL PROPERTIES AND FIBER DIMENSION OF FLAMBOYAN
WOOD (*Delonix regia* (Hook.) Raf.)**

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ABSTRACT

Flamboyan (*Delonix regia* (Bojer) Raf.) is one of the trees grown abundantly in many community forest. Flamboyan wood had a good appearance but unfortunately until now most of the wood has only been used as firewood. This is because of only few information related to it's so far available. This study is directed to provide some of the properties of the flamboyan wood grown on Bantul regency. To improve flamboyan wood role as firewood into carpentry wood and/or pulp industry material, physical characteristic and fiber dimension was conducted. Three flamboyan tree free from defects that been cut down was measured the physical characteristic also fiber dimension to determine potential utilization. Wood sample distinguished based on three axial position i.e. base, middle, end and three radial position i.e. near pith, middle, and near bark. Physical properties of wood were measured by using British Standard No.373, 1957 while the fiber dimension were determined according to IAWA 1989, the data collected was then analyzed using Completely Random Design (CRD). The result showed that flamboyan wood has average value of green moisture content, air-dry moisture content, and specific gravity 107,10%, 16,93%, and 0,379, respectively. The average value of longitudinal, radial, and tangential shrinkage from green to air-dry were 0,322%, 1,75%, and 2,51% as the mean T/R ratio was 1,97 as well as from green to oven-dry were 0.433%, 2.57%, 4.11% with T/R ratio 2.05. The average value of fiber length, fiber diameter, diameter of lumen, and thick fibre wall were 939.97 μm , 26.68 μm , 21.63 μm , and 2.52 μm , consecutively. Radial position, giving a noticeable effect on the value of green moisture content, specific gravity, and fiber length, however the interaction of radial position with axial position didn't occur.

Keywords : flamboyan wood, physical properties, fiber dimension, axial position, radial position

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