

PENENTUAN BATAS KAYU JUVENIL DAN DEWASA MANGLID  
(*Manglietia glauca* Bl) PADA DUA KELAS DIAMETER YANG BERBEDA  
SERTA VARIASI ANATOMI KAYUNYA

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INTISARI

Kayu Manglid (*Manglietia glauca* Bl.) merupakan kayu asli Indonesia yang keberadaannya mulai sulit ditemukan. Kayu Manglid yang diteliti berumur  $\pm 7$  tahun, dikoleksi dari Kebun Benih Semai (KBS) Manglid di Temanggung, Jawa Tengah. Informasi terkait batas kayu juvenil dan kayu dewasa Manglid masih belum ditemukan dan belum diteliti. Penelitian ini bertujuan untuk mengetahui batas antara kayu juvenil dan kayu dewasa, mengetahui perbedaan anatomi kategori kayu juvenil dan dewasa, serta mengetahui variasi anatomi antara kayu juvenil dan dewasa pada dua kelas diameter kayu Manglid.

Sampel kayu diambil dari populasi Sukabumi pada 2 kelas diameter (diameter A dan diameter B). Pohon yang diambil berjumlah 6 pohon dengan diameter setinggi dada (DBH) masing-masing sebesar 25,3 cm; 20,5 cm; 21,5 cm; 17,2 cm; 17,9 cm; dan 17 cm. Sampel disk yang diambil berasal dari bagian pangkal batang dengan ketinggian 10 cm dari permukaan tanah. Parameter penelitian yang digunakan yakni panjang serat, panjang pembuluh, diameter pembuluh, frekuensi pembuluh, diameter serat, diameter lumen, tebal dinding sel, frekuensi jari-jari, proporsi jari-jari, proporsi pembuluh, proporsi parenkim aksial, dan proporsi serat. Selanjutnya dilakukan analisis dengan uji ANOVA satu arah.

Hasil penelitian menunjukkan bahwa rerata batas kayu juvenil dan dewasa berada di  $40.58 \pm 4.59$  mm dari empulur. Berdasarkan analisis dimensi sel, kayu dewasa memiliki ukuran sel lebih besar dibandingkan kayu juvenil. Pada pengamatan dua kelas diameter, diameter pembuluh kayu dewasa memiliki perbedaan yang nyata, sedangkan kayu juvenil tidak terdapat perbedaan nyata pada keseluruhan parameter. Perbedaan nyata juga ditampakkan antara kayu juvenil dan kayu dewasa pada parameter diameter pembuluh dan tebal dinding serat.

Kata kunci: Kayu juvenil, kayu dewasa, kelas diameter, sifat anatomi kayu, *Manglietia glauca* Bl.

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DETERMINATION OF JUVENILE AND MATURE WOOD BOUNDARIES OF  
MANGLID (*Manglietia glauca* Bl.) IN TWO DIFFERENT DIAMETER  
CLASSES AND ITS WOOD ANATOMICAL VARIATIONS

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*ABSTRACT*

Manglid Wood (*Manglietia glauca* Bl.) is a native Indonesian wood whose existence has become increasingly difficult to find. The Manglid Wood studied in this research is approximately 7 years old and was collected from the Seedling Garden (Kebun Benih Semai or KBS) Manglid in Temanggung, Central Java. Information regarding the boundaries between juvenile and mature Manglid wood has not yet been discovered and studied. This research aims to determine the boundaries between juvenile and mature wood, identify anatomical differences in the categories of juvenile and mature wood, and investigate anatomical variations between juvenile and mature wood in two diameter classes of Manglid wood.

Wood samples were collected from the Sukabumi population in two diameter classes (diameter A and diameter B). Six trees were sampled, with respective diameter at breast height (DBH) of 25.3 cm, 20.5 cm, 21.5 cm, 17.2 cm, 17.9 cm, and 17 cm. Disk samples were taken from the base of the trunk at a height of 10 cm above the ground surface. The research parameters included fiber length, vessel length, vessel diameter, vessel frequency, fiber diameter, lumen diameter, cell wall thickness, ray frequency, ray proportion, vessel proportion, axial parenchyma proportion, and fiber proportion. Subsequently, the data were analyzed using one-way ANOVA.

The results indicated that the mean boundary between juvenile and mature wood was at  $40.58 \pm 4.59$  mm from the pith. Based on cell dimension analysis, mature wood had larger cell sizes compared to juvenile wood. In the observation of the two diameter classes, the vessel diameter of mature wood showed a significant difference, while there was no significant difference in juvenile wood across all parameters. A significant difference was also observed between juvenile and mature wood in vessel diameter and fiber wall thickness parameters.

Key word: Juvenile wood, mature wood, diameter class, the characteristic of wood anatomy, *Manglietia glauca* Bl.

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