

**PENGARUH PENERESAN DAN LETAK RADIAL TERHADAP SIFAT FISIKA
DAN MEKANIKA KAYU SENGON (*Falcataria moluccana*)
DARI HUTAN RAKYAT PURWOREJO**

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INTISARI

Cacat retak pada log kayu sengon pasca penebangan menjadi permasalahan dalam pengolahan kayu untuk industri mebel di Kabupaten Purworejo. Salah satu usaha yang dapat dilakukan untuk meminimalisasi permasalahan tersebut adalah dengan melakukan peneresan. Penelitian ini bertujuan untuk menganalisis perbedaan sifat fisika dan mekanika kayu sengon tanpa teres dan teresan 12 bulan berdasarkan letak radialnya yang berasal dari hutan rakyat Purworejo.

Sampel penelitian diperoleh dari 6 pohon sengon umur 7 tahun yang ditanam di hutan rakyat Purworejo. Rancangan penelitian berupa acak lengkap berupa faktorial menggunakan dua faktor, yaitu perlakuan peneresan (teresan dan tanpa teresan) dan letak radial (dekat hati, tengah, dekat kulit). Parameter yang diuji, yaitu kadar air, berat jenis, penyusutan, rasio T/R, keteguhan lengkung statis, keteguhan tekan sejajar serat, dan keteguhan belah. Metode pengujian mengacu pada British Standard 373 : 1957.

Hasil penelitian ini menunjukkan bahwa interaksi antara faktor perlakuan peneresan dengan letak radial hanya memengaruhi penyusutan dimensi pada arah tangensial dan rasio T/R dari kondisi segar ke kering tanur, serta tekan sejajar serat. Perlakuan peneresan berpengaruh nyata dengan menurunkan kadar air, berat jenis kayu, dan keteguhan tekan sejajar serat serta keteguhan belah. Penyusutan dimensi membaik pada arah longitudinal, tetapi peningkatan rasio T/R menurunkan stabilitas kayu. Letak radial memengaruhi berat jenis, penyusutan dimensi, batas proporsi, MOR, dan keteguhan belah.

Kata Kunci : Letak radial, peneresan, sengon, sifat fisika, sifat mekanika.

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THE EFFECT OF GIRDLING AND RADIAL POSITION ON THE PHYSICAL AND MECHANICAL PROPERTIES OF SENGON WOOD

(*Falcataria moluccana*) FROM COMMUNITY FORESTS IN PURWOREJO

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ABSTRACT

Cracking defects in *Falcataria moluccana* logs after logging are a problem in wood processing for the furniture industry in Purworejo Regency. One of the efforts that can be done to minimize these problems is by girdling. This study aims to analyze the difference in physical and mechanical properties of *Falcataria moluccana* wood without girdling and 12 months girdling based on its radial location from Purworejo community forest.

The research samples were obtained from six 7-year-old sengon trees planted in community forests in Purworejo. The research design was a completely randomized factorial design using two factors: girdling treatment (girdled and non-girdled) and radial location (near the heartwood, middle, and near the bark). The parameters tested included moisture content, specific gravity, shrinkage, T/R ratio, static bending strength, compressive strength parallel to the grain, and splitting strength. The testing method referred to British Standard 373: 1957.

The results of this study indicate that the interaction between girdling treatment and radial position only affects dimensional shrinkage in the tangential direction and the T/R ratio from fresh to oven-dried conditions, as well as compressive strength parallel to the grain. The girdling treatment significantly affects wood properties by reducing moisture content, wood density, compressive strength parallel to the grain, and splitting strength. Dimensional shrinkage improves longitudinally, but the increased T/R ratio decreases wood stability. Radial position influences wood density, dimensional shrinkage, proportional limit, MOR, and splitting strength.

Keywords: *Falcataria moluccana*, girdling, mechanical properties, physical properties, radial position.

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