

PENGARUH ARAH AKSIAL DAN RADIAL TERHADAP SIFAT FISIKA KAYU JATI DARI HUTAN RAKYAT YANG TUMBUH DI KECAMATAN KALIBAWANG KULONPROGO

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INTISARI

Kebutuhan kayu untuk bahan baku industri mengalami peningkatan. Pemanfaatan kayu secara optimal diperlukan sebagai solusi permasalahan pemenuhan kebutuhan kayu nasional. Salah satu solusi dalam pemenuhan kebutuhan kayu dengan memanfaatkan hasil kayu yang berasal dari hutan rakyat. Jati merupakan salah satu kayu komersil yang mempunyai manfaat serta harga yang tinggi. Kayu Jati praktis sangat cocok untuk segala jenis konstruksi dan kayu perkakas. Penelitian ini bertujuan untuk mengetahui sifat fisika kayu jati dari hutan rakyat yang tumbuh di kecamatan Kalibawang, Kulonprogo.

Penelitian menggunakan rancangan acak lengkap (CRD) dengan dua faktor yaitu aksial dan radial. Faktor aksial terdiri dari dua bagian yaitu ujung dan pangkal, sedangkan faktor radial terdiri dari tiga bagian yaitu dekat hati, tengah dan dekat kulit dengan masing-masing empat ulangan. Parameter yang diuji adalah kadar air segar, kadar air kering udara, perubahan dimensi dan pengujian warna kayu yang selanjutnya dilakukan analisis keragaman untuk mengetahui pengaruh pada masing-masing faktor penelitian.

Hasil penelitian menunjukkan interaksi antara arah aksial dan arah radial kayu tidak berpengaruh nyata terhadap parameter yang diuji. Kombinasi perlakuan terbaik dalam penelitian ini diperoleh dari arah aksial bagian pangkal dengan arah radial bagian dekat kulit dimana nilai kadar air segar sebesar 57,22%, kadar air kering udara sebesar 8,54%, penyusutan arah longitudinal dari kondisi segar sampai kondisi kering udara sebesar 0,29%, penyusutan arah radial dari kondisi segar sampai kondisi kering udara sebesar 0,56%, penyusutan arah tangensial dari kondisi segar sampai kondisi kering udara sebesar 1,15%, penyusutan arah longitudinal dari kondisi segar sampai kondisi kering tanur sebesar 0,31%, penyusutan arah radial dari kondisi segar sampai kondisi kering tanur sebesar 1,86%, penyusutan arah tangensial dari kondisi segar sampai kondisi kering tanur sebesar 5,28%, pengembangan arah longitudinal sebesar 0,09%, pengembangan arah radial sebesar 1,72%, pengembangan arah tangensial sebesar 5,29%, kecerahan warna kayu sebesar 57,35%, kemerahan warna kayu sebesar 10,463%, dan kekuningan warna kayu sebesar 17,493%.

Kata kunci : Kayu, sifat fisika, arah aksial, arah radial, Kadar air, perubahan dimensi, pengujian warna

THE INFLUENCE OF AXIAL AND RADIAL DIRECTION TO PHYSICAL CHARACTER OF TEAK IN THE SOCIAL FORESTRY GROWN IN KALIBAWANG SUB-DISTRICT, KULONPROGO

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ABSTRACT

The demand of wood for industrial raw material has increased. The optimal utilization of wood is needed as a solution of national needs of timber fulfillment problems. One of the solutions is by utilizing the product of timber from the social forestry. Teak is one of the commercial timbers that have benefit as well as expensive. Teak is suitable for all types of construction and wooden utensils. This study aims to determine the physical character of teak in the social forestry grown in Kalibawang sub-district, Kulonprogo.

The study uses a completely randomized design (CRD) with two factors: axial and radial. Axial factor composed of two parts, that are the tip and base, while the radial factor consists of three parts, they are near the heart, the center and close to the skin with four replications on each of them. The parameters tested are the content of fresh water, the content of air dried water, dimension change and the color of wood test which is analyzed of variance to determine the influence of each factor of research.

The results shows that the interaction between the axial direction and the radial direction of wood do not significantly affect the parameters tested. The combination of the best treatment in this study is obtained from the axial direction on the base with the radial direction on part near the skin where the content of fresh water is 57,22%, the content of air-dried water is 8,54%, the depreciation of the longitudinal direction from the fresh condition to air dried condition is 0,29%, the subsidence of the radial direction of the fresh condition to air dried condition is 0.56%, the shrinkage of tangential direction of the fresh condition to air dried condition is at 1,15%, the depreciation of the longitudinal direction of the fresh condition to the dry kiln condition is 0,31%, the subsidence of radial direction of the fresh condition to dry kiln condition is 1,86%, the shrinkage of tangential direction of the fresh condition to the dry kiln is 5,28%, the development of the longitudinal direction is 0.343%, the development of a radial direction is 1.72%, the development of the tangential direction is 5.29%, the brightness of the color of the wood is 57.347%, the reddish of the wood color is 10.463%, and the yellowish of the wood color is 17.493%.

Keywords: Wood, physical character, the axial direction, the radial direction, water levels, dimension change, color testing