

SIFAT DAN VARIASI TIGA JENIS BAMBUN (APUS, ORI, WULUNG)
PADA KETINGGIAN TEMPAT TUMBUH YANG BERBEDA

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INTISARI

Bambu tumbuh pada berbagai ketinggian tempat, dari daerah dekat pantai sampai ke pegunungan dan sifat-sifat bambu pada berbagai ketinggian tempat tersebut belum banyak diketahui, karena sangat terbatasnya informasi. Tujuan dari penelitian ini adalah untuk mengetahui sifat dan variasi tiga jenis bambu (Apus, Ori, Wulung) pada tiga ketinggian tempat tumbuh yang berbeda meliputi sifat-sifat fisika, anatomi dan kimia.

Bambu yang digunakan dalam penelitian ini berasal dari lokasi Parangtritis (40 m dpl), Ngaglik (310 m dpl) dan Cangkringan (615 m dpl), dipilih sebanyak 3 batang untuk setiap jenis, dan setiap batang dipotong menjadi tiga posisi yaitu pangkal, tengah dan ujung, sehingga dari tiga lokasi didapatkan 81 bagian batang sebagai sampel. Rancangan penelitian yang digunakan adalah Rancangan Acak Lengkap dalam percobaan faktorial yang diuji lanjut dengan uji Tukey atau HSD (*Honestly Significant Difference*).

Hasil penelitian menunjukkan bahwa pada sifat fisika, kadar air segar terbesar jenis Wulung, lokasi Parangtritis 109,02% dan terkecil jenis Ori, lokasi Ngaglik, 89,90%, posisi pangkal terbesar 126,85% dan terkecil ujung 78,50%. Kadar air kering udara terbesar jenis Ori, lokasi Parangtritis 11,94% dan terkecil jenis Wulung, lokasi Cangkringan 11,53%, posisi pangkal terbesar 12,57% dan terkecil ujung 11,02%. Berat jenis terbesar jenis Ori lokasi Ngaglik, 0,63 dan terkecil jenis Wulung, lokasi Parangtritis 0,55, posisi ujung terbesar 0,65 dan terkecil pangkal 0,50. Penyusutan tebal kering udara dan kering tanur terbesar jenis Wulung, lokasi Ngaglik berturut-turut 11,39% dan 12,13% dan terkecil jenis Ori, lokasi Parangtritis, berturut-turut 10,45% dan 11,34%, posisi ujung terbesar berturut-turut 13,20%, 14,13% dan terkecil pangkal berturut-turut 7,93%, 8,71%. Sifat Anatomi menunjukkan panjang serat tidak dipengaruhi lokasi, jenis Apus terbesar 3,40 mm dan terkecil jenis Ori 2,86 mm, posisi tengah terbesar 3,46 mm dan terkecil ujung 3,00 mm. Diameter serat dan lumen terbesar jenis Wulung, lokasi Cangkringan berturut-turut 13,75 μ , 8,39 μ , dan terkecil jenis Ori, lokasi Parangtritis berturut-turut 11,45 μ , 6,33 μ , posisi tengah terbesar berturut-turut 13,03 μ , 7,87 μ dan terkecil ujung berturut-turut 12,28 μ , 6,87 μ . Tebal dinding sel terbesar jenis Wulung, lokasi Ngaglik 2,68 μ dan terkecil jenis Apus, lokasi Parangtritis 2,47 μ , posisi ujung terbesar 2,70 μ dan terkecil pangkal 2,44 μ . Sifat kimia menunjukkan kadar ekstraktif tidak dipengaruhi lokasi, larut air panas dan air dingin terbesar jenis Ori berturut-turut 6,62%, 4,97% dan terkecil jenis Apus berturut-turut 5,56%, 3,96%, posisi pangkal terbesar berturut-turut 6,58%, 4,97% dan terkecil ujung berturut-turut 5,64%, 3,93%. Larut alkohol benzen terbesar jenis Wulung 3,92%, terkecil jenis Apus 3,20% posisi tengah terbesar 3,74% dan terkecil ujung 3,16%. Kadar holoselulosa dan alfaselulosa tidak dipengaruhi lokasi, terbesar jenis Wulung berturut-turut 74,95%, 45,29% dan terkecil jenis Apus berturut-turut 74,22%, 43,30%, posisi pangkal terbesar berturut-turut 75,18%, 45,25% dan terkecil ujung berturut-turut 73,96%, 43,68%. Kadar lignin terbesar jenis Apus, lokasi Parangtritis 26,35% dan terkecil jenis Ori lokasi Cangkringan 25,60%, posisi ujung terbesar 26,22% dan terkecil pangkal 25,64%.

Kata kunci : *Sifat, variasi, jenis bambu, ketinggian tempat.*

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ABSTRACT

Bamboos grow in wide range of altitude, from shore to mountainous regions. Although altitude affects their characteristics, but its effect haven't been known due to lack of information. The aim of this study is to examine physical, anatomical, and chemical properties of three bamboo cultivars and their relation to the altitude of grown site.

Three bamboo poles of each cultivars from different altitude grown site, Parangtritis (40 m), Ngaglik (310 m), and Cangkringan (615 m), was taken as samples. Each pole was divided into three parts : basal, middle and apical. Data were analyzed by factorial scheme of Completely Randomized Design and HSD test was used for multiple comparison.

The results showed that, for moisture content of fresh cut bamboo, the highest is Wulung cultivar from Parangtritis 109.02% and the smallest was Ori cultivar from Ngaglik 89.90%. Basal position has the greatest moisture content 126.85% and the smallest was the apical position 78.50%. For air dried bamboo, the greatest moisture content was Ori cultivar coming from Parangtritis 11.94% and the smallest was Wulung cultivar from Cangkringan 11.53%. The greatest air dry moisture content of basal position 12.57% and the smallest was the apical position 11.02%. Ori cultivar from Ngaglik had the greatest specific gravity 0.63 while the smallest was Wulung cultivar from Parangtritis 0.55. the basal part has the greatest specific gravity with 0.65 while the apical part specific gravity 0.50. Green to air dry and oven drying thickness shrinkage were greatest for Wulung cultivar from Ngaglik, 11.39%, 12.13% respectively and while the smallest was Ori cultivar from Parangtritis 10.45%, 11.34% respectively. Apical position, as expected, showed the biggest shrinkage of thickness 13.20%, 14.13% and the smallest was basal position 7.93%, 8.71% respectively. For anatomical properties, Altitude has not relation with fiber length . The longest was Apus 3.40 mm and the shortest was Ori 2.86 mm. For position, the longest was middle position 3.46 mm and the smallest apical position 3.00 mm. Fiber diameter and lumen showed that, the greatest was Wulung cultivar from Cangkringan 13.75 μ , 8.39 μ and the smallest was Ori cultivar 11.45 μ , 6.33 μ , respectively, from Parangtritis. In relation with position, the greatest was the middle parts 13.03 μ , 7.87 μ respectively, and the smallest was the apical part 12.28 μ , 6.87 μ respectively. The cell wall thickness indicate that the largest was Wulung cultivar from Ngaglik 2.68 μ and the thinnest was Apus cultivar from Parangtritis 2.74 μ . Chemical content showed that extractive was not affected by altitude. Water soluble and hot water soluble extractive content showed, the biggest was Ori cultivar 6.62%, 4.97% respectively, while the smallest was from Apus cultivar 5.56%, 3.96% respectively. Basal position was the highest 6.58%, 4,97 % respectively, while the smallest was apical position 5.64 %, 3.93% respectively. Alcohol benzene soluble position of Wulung cultivar was the highest 3.92% while Apus cultivar was the smallest 3.20%. Regarding with position, the biggest was middle position 3.74% and the smallest was the apical part 3.16%. Holocellulose and alphacellulose content were not affected by altitude. The biggest was Wulung cultivar 74.95%, 45.29% respectively, but the smallest was Apus cultivar 74.22%, 43.30%. Regarding with position, basal position showed the highest effect 75.18%, 45.25% respectively while the smallest was apical position 73.96% and 43.68% respectively. Apus cultivar from Parangtritis had the highest lignin content 26.35% and Ori from Cangkringan had the smallest content of 25.60%. Lignin content of apical part showed the highest effect (26.22%) while the smallest was basal position 25.64%.

Key word : Properties, variation, bamboo cultivar, altitude

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