

**PENGARUH PEMBERIAN PUPUK PADA POSISI VERTIKAL BATANG
TERHADAP SIFAT FISIK DAN MEKANIK BAMBU PETUNG
(Dendrocalamus asper (Schult. F.) Backer ex Heyne
(The Effect of Fertilization on the Vertical Position in the Stem to physical and
mechanical properties of petung bamboo (Dendrocalamus asper (Schult. F.) Backer ex
Heyne)**

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ABSTRACT

This research aimed to investigate the effect of the fertilizing by a mixture of compost and mycorrhiza, and vertical position on the stem of petung bamboo (*Dendrocalamus asper* (Schult. F.) Backer ex Heyne) on its physical and mechanical properties. The properties as observed or responses covered density, moisture content, modulus of elasticity (MOE) and modulus of rupture (MOR). The fertilizing was conducted in the early cultivation with the compost plus mycorrhiza 5 kg/hole on the 5 x 5 m² of clumps area. The bamboo samples were taken by 20 pieces from 3 clumps for the physical and mechanical examinations. Samples were cut at the third internode (40 – 50 cm) from bottom as long as more or less 7 m. Every culm is divided by 3 according to vertical position (bottom, middle and top). Research result revealed that the stem diameter and thickness of petung bamboo that was fertilized were greater than those of bamboo without fertilizer (control). It turned out that the average density and moisture content did not reveal consistency between treatment (fertilizing) and control on particular vertical position in the bamboo stem. Compared to the overall mean, average MOE of the bottom and middle portions of fertilized bamboo stem decreased by 46% and 44%, respectively. However, MOE of the top portion increased by 10%. Likewise, average MOR of the bottom portion decreased by 44%, while that of middle and top portions increased by 2%, respectively.

Keywords : Bamboo, fertilization, physical and mechanical properties.

ABSTRAK

Penelitian ini bertujuan menganalisa pengaruh pemberian pupuk kompos + mikoriza dan posisi vertikal batang terhadap sifat fisik dan mekanik bambu petung (*Dendrocalamus asper* (Schult. F.) Backer ex Heyne). Respon yang diamati adalah kerapatan, kadar air, modulus elastisitas (MOE) dan modulus patah (MOR). Pemupukan dilakukan pada awal penanaman dengan pupuk kompos plus mikoriza sebanyak 5 kg/lubang tanam dengan ukuran setiap rumpun 5 x 5 m². Bambu percobaan diambil 20 batang dari 3 rumpun untuk penelitian sifat fisik dan mekanik. Contoh uji diambil pada ruas ke- 3 (40-50 cm) dari bagian pangkal batang sepanjang lebih kurang 7 m. Kemudian dibagi 3 menurut ketinggian batang (pangkal, tengah dan ujung). Hasil penelitian menunjukkan, diameter dan tebal bambu yang diberi perlakuan jauh lebih besar dibandingkan dengan bambu petung yang tidak diberi perlakuan. Nilai rata-

rata kerapatan dan kadar air tidak menunjukkan konsistensi antara perlakuan dengan kontrol pada posisi vertikal batang. Nilai rata-rata MOE hasil pemupukan pada bagian pangkal menurun 46% dan bagian tengah 44%, namun pada bagian ujung 3meningkat sebesar 10%. Demikian pula MOR, pada bagian pangkal menurun 44%, bagian tengah 44% dan bagian ujung meningkat sebesar 2%.

Kata kunci : Bambu, pemupukan, sifat fisik, sifat mekanik