

**STUDI PENGARUH UMUR DAN TINGGI BATANG TERHADAP STRUKTUR
SERAT, SIFAT FISIK, MORFOLOGI DAN KIMIA BATANG BAMBU APUS
(*Gigantochloa apus* Kurz)**

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ABSTRACT

*Characterist and anatomical study of **Gigantochloa apus** was carried out to know the fiber structure, morphological, physical, and chemical properties on various age and part of culm height. The research was done by ex post facto design and the data was analyzed by observational description. For anatomical observation, materials were processed using paraffin, PEG, and wood methods, and maceration for fiber structure. The result showed that internodus amount, diameter and wall thickness was increase in older culm. Fiber length was 3,8 mm in average, and older culms have longer fiber than the young ones and within the same culm, the lower part had longer fibers than the upper part. The fresh density (0,97-1,17 g/ml) and the oven dry density (0,57-0,79 g/ml) of this bamboo, it was higher for the older culm than younger culm. Liquor sorption (in NaOH 5% solution) into bamboo chips was fairly good. The sorption into the young bamboo was faster and better than into older bamboo. Young bamboo culms contain more water than older culms and the top part within the same culm contain little water than lower part. The total cellulose in young bamboo culm was higher than the older (64%-54%), but the lignin on the contrary in lower (14%-28%). At the bottom part, the lignin was higher than the upper part. The ash content was high (1,6%-4,5%) and it fluctuate based on age and the height part of culm.*

Key words : anatomy, cellulose, culm, density, fiber structure, *Gigantochloa apus*.