Piyawade Bauchongkol 2006: Suitability of *Dendrocalamus hamiltonii* and *Dendrocalamus latiflorus* as Raw Material for Manufacturing Medium Density Fiberboard. Master of Science (Forestry), Major Field: Forest Products, Department of Forest Products. Thesis Advisor: Mr. Nikhom Laemsak, Ph.D. 75 pages.
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This research studied properties of medium density fiberboard (MDF) made by *Dendrocalamus hamiltonii* from Ang Khang Royal Project Station and *Dendrocalamus latiflorus* from Pang-Da Royal Project Station with various age levels of 1, 2, 3, 4 and 5 years old.

The experiment processed with 3 different urea formaldehyde (UF) contents (6%, 10% and 14% based on dry weight of fiber) and was conducted using 2x5x3 Factorial experiment in Completely Randomized Design (CRD) with three replications. Properties of boards were tested by TISI 966-2547 and JIS A 5906- 1994. The data gathered were analyzed by using the SPSS software package.

The results demonstrated that nearly all mechanical properties of boards at 10% and 14% UF content were above minimum requirements for MDF as specified in the TISI 966-2547 and JIS A 5906- 1994 standards. MDF made from *D. latiflorus* was better than MDF made from *D. hamiltonii* and 5 years old was suitable age for MDF producing board with 10% (based on dry weight of fiber) UF content. However, *D. latiflorus* less than 5 years old was suitable for MDF board production if increasing glue levels were used. In conclusion, bamboo was suitable as alternatives raw material for MDF manufacturing.

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