

Efisiensi pemasakan bio-kraft pulp kayu sengon dengan jamur *phanerochaete chrysosporium*

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Abstrak

This study was carried out to investigate the effect of biological treatment with *Phanerochaete chrysosporium* Burds fungi on the degradation process of chemical component of wood of Sengon (*Paraserianthes falcataria* (L) Nielsen) especially lignin, cellulose and extractives and efficiency of the pulping process.

The white-rot fungus, *P. chrysosporium* Burds was cultured at 28 °C, RH 65 % for 7 days under growth medium, and inoculated to wood chips of Sengon and incubated for 4 weeks. The chips were then analyzed of its chemical components and then cooked by kraft process with 3 variation of active alkali (16%, 14%, 12%) and 3 variation of cooking time (2; 1,5; and 1 hour).

This study showed that fungal treatment could reduce the lignin content of wood chip from 26 % to 24 % and reduce the extractives content from 2,5 % to 1,7 %, and cellulose content changed slightly. The highest screened yield (50,72 %) was reached on treated chips cooked with 16 % active alkali and 1,5 hours time cooking. The treated chips cooked with 14% active alkali and 1,5 hours cooking time has the same screened yield with untreated chips, 39,85% dan 39,32% respectively. The kappa number decreased from 7,97 to 2,89. This means that bio-kraft pulping could reduce the active alkali requirement unto 12,5 % and reduce the cooking time unto 25 %.