PENGARUH KERAPATAN PAPAN DAN JUMLAH PEREKAT UREA FORMALDEHIDA TERHADAP SIFAT PAPAN SERAT BATANG SEMU PISANG KEPOK (*Musa* spp.)

Oleh :
Tumiyem[-1] dan T.A. Prayitno[-2]

INTISARI

Degaradasi hutan menyebabkan ketersediaan kayu makin berkurang. Alternatif untuk mengatasi persoalan tersebut yaitu dengan pembuatan papan tiruan, salah satunya papan serat. Papan serat dapat dibuat dari serat kayu atau non kayu, salah satu jenis sumber serat non kayu yang belum banyak termanfaatkan yaitu batang semu pisang kepok. Penelitian ini bertujuan untuk mengetahui interaksi antara suhu dan lama pengempaan yang digunakan untuk mendapatkan sifat papan serat batang semu pisang kepok yang optimal.

Bahan baku penelitian ini adalah batang semu pisang kepok yang diperoleh dari Kecamatan Lendah, Kabupaten Kulon Progo. Kerapatan papan yang digunakan adalah 0,4 g/cm^3 dan 0,8 g/cm^3 dan jumlah perekat sebesar 0 %, 2% dan 4%. Penelitian ini menggunakan percobaan faktorial dengan Rancangan Acak Lengkap (*Completely Randomized Design*). Analisis yang dipakai merupakan analisis keragaman (*Analysis of Varians*) dengan factor suhu kempa dan lama kempa. Uji lanjut menggunakan uji HSD (*Honestly Significant Difference*). Pengujian sifat fisika dan mekanika papan serat menggunakan standar ASTM D 1037-99 (*Standar Test Method for Evaluating Properties of Wood-Based Fiber and Particle Panel Materials*). Kadar air, kerapatan, pengembangan tebal, penyerapan air, keteguhan lengkung statik, keteguhan sejajar permukaan, dan keteguhan tarik tegak lurus permukaan (*internal bonding).*

Hasil penelitian menunjukkan bahwa interaksi antara kerapatan papan dan jumlah perekat tidak berpengaruh secara nyata pada sifat fisika dan sifat mekanika papan serat. Faktor kerapatan papan dan jumlah perekat berpengaruh secara nyata terhadap nilai kerapatan, penyerapan air, pengembangan tebal, keteguhan tekan sejajar permukaan dan *internal bonding*. Makin tinggi kerapatan papan makin tinggi nilai kerapatan, penyerapan air, pengembangan tebal, keteguhan tekan sejajar permukaan, *internal bonding*, tetapi sebaliknya nilai penyerapan air semakin turun. Makin banyak jumlah perekat yang ditambahkan makin tinggi nilai kerapatan, keteguhan tekan sejajar permukaan dan internal bonding sebaliknya penyerapan air dan pengembangan tebal makin turun.Sifat mekanik papan serat telah memenuhi standar FAO (1966) dan NPA 4-73 namun hanya sebagian sifat fisik papan serat yang memenuhi standar.

Kata kunci : kerapatan papan , jumlah perekat, papan serat, batang semu pisang

[1]Mahasiswa Jurusan Teknologi Hasil Hutan Fakultas Kehutanan UGM
[2]Staf Pengajar Jurusan Teknologi Hasil Hutan Fakultas Kehutanan UGM

THE EFFECT OF BOARD DENSITY AND GLUE SPREAD TO THE PROPERTIES OF FIBERBOARD PSEUDO-STEM KEPOK BANANA (*Musa* spp.)

By
Tumiyem[-1] dan T.A. Prayitno[-2]

ABSTRACT

Forest degradation causes searcuty of wood. Alternative for overcoming the problem is making artificial board, one of them is fiberboard. Fiberboard can be made of wood fiber or non wood fiber. One type of source of non wood fiber which not yet many exploited is bananas pseudo-stems kepok. This research aims to know interaction between board density and glue spread to get physical and mechanical properties of fiberboard.

The research material was Pseudo-stem kepok banana which of taken from lendah district, Kulon Progo district. The board density which applied were 0,4 g/cm^3 and 0,8 g/cm^3 and amount of glues spread to 0 %, 2 % and 4 %. The research design was in a completely randomized design, with two factors, such as density board and glue spread, and used analysis of variants as statistical analysis. Post hoc test used honestly significant difference. The test of physical and mechanical properties fiberboard used ASTM 1037-99 (Standard Test Method for Evaluating Properties of Wood-Based Fiber and Particle Panel Materials) which including moisture content, density, water adsorption, thickness swelling, static bending, compressive strength parallel of surface, and tensile strength perpendicular of surface (internal bonding).

The result of research showed that interaction between board density and glue spread did not significantly affect to the physical and mechanical properties of fiberboard. Density board and glue spread factor gave significantly affected to the density board, water adsorption, thickness swelling, compressive strength parallel of surface, and tensile strength perpendicular of surface (internal bonding).More high density board causing highest density board, thickness swelling, compressive strength parallel of surface, and tensile strength perpendicular of surface (internal bonding),but on the contrary assess water absorption progressively want down. More high glues spread which added causing highest density board, compressive strength parallel of surface, and tensile strength perpendicular of surface (internal bonding) but on the contrary water absorption and thickness swelling progressively want down. Mechanical properties of fiberboard has fulfilling FAO standard and NPA 4-73 standard, but just some of physical properties fiberboard which fulfilling standard.

Key words : density board, glue spread, fiberboard, pseudo-stem banana

[1]Student of Forest Product Technology Department of Forestry Faculty of GMU
[2]Lecture of Forest Product Technology Department of Forestry Faculty of GMU