
(Coniophora puteana)

(Trametes versicolor)

*

(/ / : // :)

Coniophora)

(Trametes versicolor)

(Fagus orientalis)

(puteana

(WPG)

°C

(MUF)

EN113

% /
% /

% / % /
% / % /

% /
% /

:

(Rowell,1997)

%

)

(Brelid & Westin, 2007)

(

Tarkow et al,

(1950)

(Khosravani, 2006) (WPG)

(Larsson, 1998)

(Sander et al, 2003)

(Mohebbi, 2003)

(Rowell,1983)

(Imamura et al, 1989)

(Takahashi 1996)

(*Fagus orientalis*)

(Ohkoshi et al, 1999)

%

%

(*Fagus orientalis*)

(Chips)

(WPG)

()

() () ()

()

BAM

(MUF)

x x

cc

Trametes)

Coniophora)

(*versicolor*

(*puteana*

cc

Kolle

l kg/cm² 20 C

² Autoclave

¹ petri dish

Kolle

Kolle

C

()

()

UV

Kolle

$$\text{وزن خشك اوليه} - \text{وزن خشك ثانويه} = \text{وزن خشك اوليه} \times 100 = \text{درصد كاهش جرم}$$

()

(Trametes versicolor)

Kolle

()

()

EN113

±

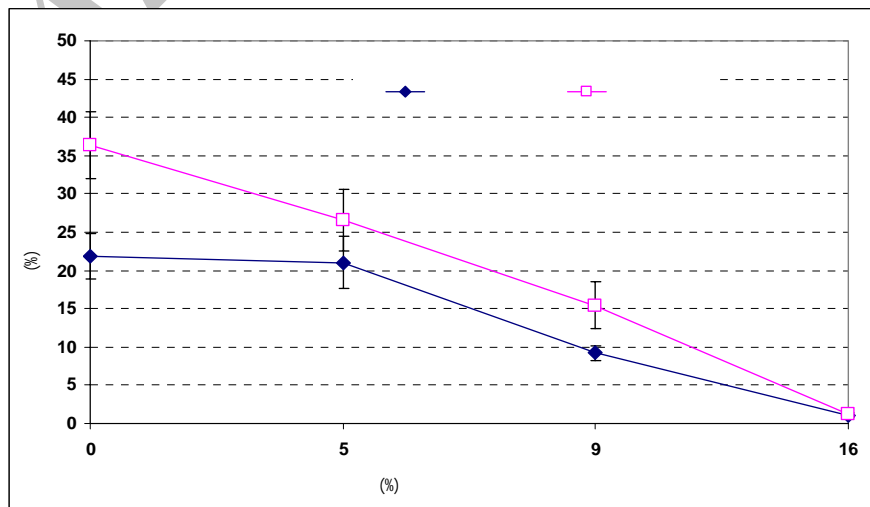
¹ Incubator

()

(*Trametes versicolor*)

P	F
/	/
/	/
/	/
/	/

(%)	()
/ D	/ C
/ C	/ C
/ B	/ B
/ A	/ A



(*Trametes versicolor*)

(*Coniophora puteana*)

...

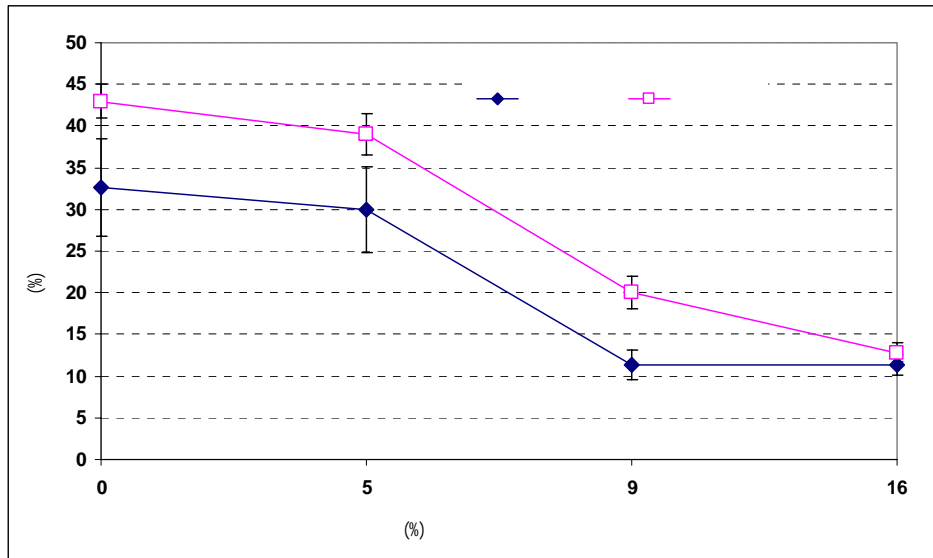
()

()

(Coniophora puteana)

P	F
/	/
/	/
/	/
/	/
/	/

(%)	
/ D	/ B
/ C	/ B
/ B	/ A
/ A	/ A



(*Coniophora puteana*)

et al, 1990 Morrell & Zabel , 1992)

(Eriksson %

(Sander et al, 2003)

% /

% /

Okino)

(Youngquist et al, 1986)

(et al, 1998

(Mohebbi, 2003)

...
-
(Takahashi, 1996)

%

(2003) Mohebbi

% /

(Rowell, 1994) et al,

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Biological resistance of acetylated particleboards exposed to white (*Trametes versicolor*) and brown (*Coniophora puteana*) rot fungi

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Abstract

This research was conducted to investigate the effect of acetylation on bioresistance of particleboard produced from acetylated wood chips of *Fagus orientalis* exposed to white (*Trametes versicolor*) and brown (*Coniophora puteana*) rot fungi. After 12 hours of soaking in acetic anhydride, in order to achieve three levels of weight gain, namely 5, 9 and 16%, acetylated particles were heated in an oven at 120 °C for 30, 90 and 240 minutes, respectively. Acetylated and nonacetylated (control) boards were produced with 10% melamine urea formaldehyde (based on the oven-dry weight of particles) and pressed. These boards were tested for decay resistance according to EN113 standard method. Results showed that by increasing the level of acetylation, bioresistance of boards increased for both white and brown rots. However, this effect was more obvious for white rot. In fact, by increasing the level of acetylation from zero to 16%, the weight loss of white brown rotted samples reduced from 21.8% to 0.97% and from 36.3% to 1.78% and for brown rotted samples declined from 32.6% to 11.3% and from 42.9% to 12.8% after 12 and 16 weeks, respectively.

Keywords: Acetylation, particleboard, bioresistance, white rot, brown rot