
CMP

*

(/ / : // :)

)

(CMP)

L : W = :

(

PFI
g/m²

(

ml.CSF

(

)

(

)

(

)

CMP

...

CMP

() Iiam Rai

P.deltoides P.euramericana

() Situ Lai

(*P.tremuloides*)

I-

() Jones Richardson

I-214

P. euramericana

()

(CMP)

CMP

P. deltoides

CMP

()

Populus euramericana Populus deltoides

CTMP CMP

APMP

CMP

APMP

()
) / /
() / /
()

CMP

CMP

()

(SCMP)

Na₂O

CMP

/)
()

CMP

L:W= :

CMP

PFI

CMP

T_{200sp-96}

TAPPI
ml.CSF

(*Populus euramericana*) I-214

...

CMP

:
CMP

T₂₀₅ sp-95
g/m²

TAPPI

(/)

T₄₂₅ om
T₄₂₆ wd
T₄₂₅ om

T₄₀₄ cm
T₄₁₄ om
T₄₀₃ om

CMP

ml.CSF

(LSD)

PFI

()

(CMP)

()

CMP

L : W = :

CMP

/

Least Significance Difference

CMP

ml.CSF

> (%) (< / mm)	(%) (/ mm)	(%) (/ mm)	(%) (/ mm)	(%) (/ mm)	(%) (/ mm)	
/	/	/	/	/	/	CMP
	/	/	/	/	/	
/	/	/	/	/	/	
/	/	/	/	/	/	% + %

Archive of SID

() CMP
()

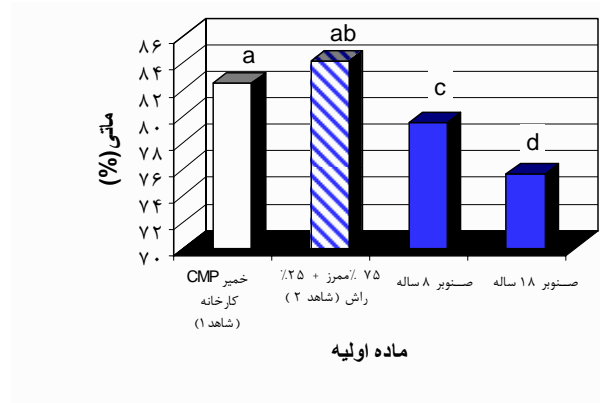
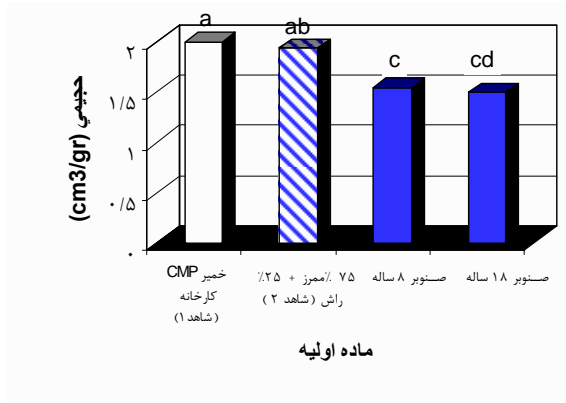
) CMP

(

CMP

()

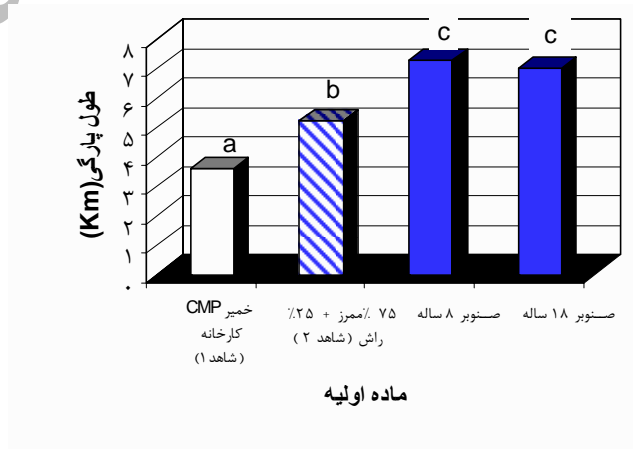
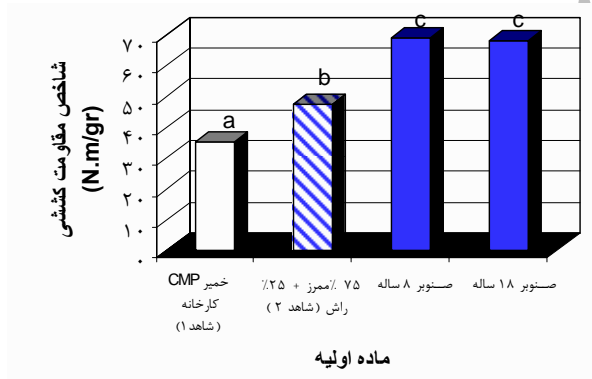
(.)

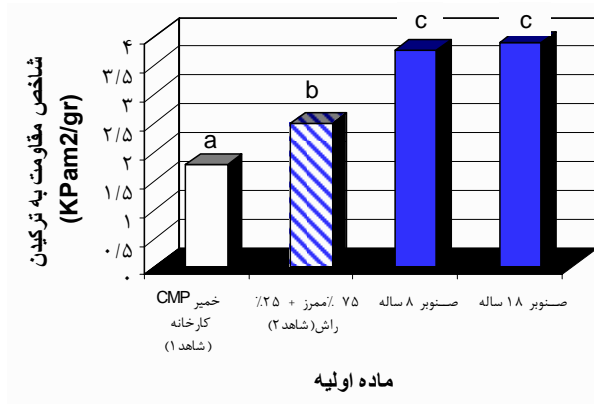


) CMP (

(.)

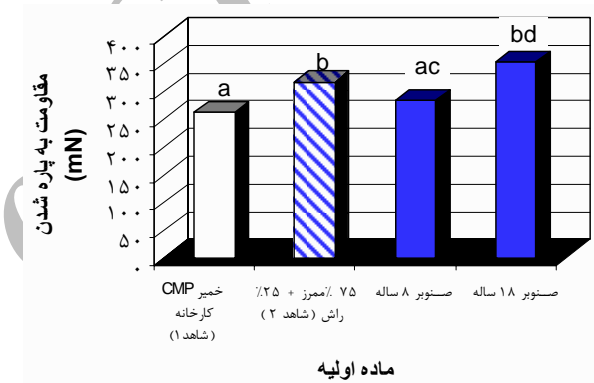
(





CMP

()



CMP

Archive

(I-)

(.)

CMP

CMP

()

(.)

(.)

CMP

(populus nigra)

I-

(CMP)

9- Anonymous (1998-1999). "Tappi Test Method". Technical Association of Pulp and Paper Industry.

10- Lai, Y.Z., Situ, W. (1993). " Effects of Chemical Treatments on Ultra-High- Yield Pulping. VII. Variation of Aspen CMP Fractions in Lignin Modification". Holzforschung, Vol. 47, No. 1, P. 41-44, 28 Ref.

11- Rai, A.K., Iiam, C. (1987). " Pulping and Papermaking Qualities of Young Poplars". Journal of Timber- Development Association of India; Vol.33, No. 4, P. 23-32, 2 Ref.

12- Richardson, J.D., Joens, T.G. (1997). " Chemimecanical Pulping of New-Zealand Grown Poplar Clones I-214". Appita Journal, Vol. 50, No. 1, P. 34-39, 13ref.

CMP Pulping from *Populus euramericana* for Newsprint Production

E. R. Garmaroody^{*1}, H. Resalati² and S. Maddavi³

¹ Ph. D. student of pulp and paper industries, University of Agricultural Sciences and Natural Resources, Gorgan, I. R. Iran

² Associate Prof, University of Agricultural Sciences and Natural Resources, Gorgan, I. R. Iran

³ Assistant Prof, Forests and Rangelands Research Institute, Iran

(Received 2004 Dec 14, Accepted 2006 Feb 21)

Abstract

This study was carried out to investigate papermaking properties comparison of fast growth poplar species (*Populus euramericana*) at two growing periods of 8 and 18 years for newsprint production in MWPI. This special poplar, has been selected from Safrabasteh research station in Gilan province. Selected poplar were chipping in MWPI. Based on the results of experimental tests, cooking conditions of 20% chemicals (based on oven dry wood), cooking temperature of 160 °C, L:W = 7 : 1 and cooking time of 90 min for 8 years poplar and 130 min for 18 years was selected in order to obtain pulping yield of about 85%. After chemical treatment of wood chips with Na₂SO₃ solution the treated chips were defibrated in three stages and bleached by H₂O₂, refined in PFI mill to freeness of about 300 ml.CSF. Laboratory standard handsheet with gramage of 60g/m² were made from the refined pulps. The results show that, in respect to physical and strength properties, the paper from poplar wood were superior to the paper produced from CMP pulp of the normal wood furnish (75% hornbeam + 25% beech), except in optical property of opacity which has shown some reduction. Therefore, by making necessary changes in cooking conditions, to improve the paper opacity, it may be possible to use poplar (*populus euramericana*) as pure for newsprint production in MWPI. In applying this respect, 8 years growth poplar has more priority.

Keywords: poplar (*Populus euramericana*), CMP pulping, newsprint

* Corresponding author: Tel: 021-44418014, Fax: 0171-2245964 Email: rasooly2000@yahoo.com