
P.nigra var betolifolia ، *P.euroamericana*

P.euoramericana, P.nigra var betolifolia

/ : / : / : / / /
/ km / mN.m /gr /
(/ ISO) kPa.m /gr
(/)

// : // :

(E-mial:Latibari_24@yahoo.com)

...

	()		()
Na SO		NaOH	Na CO
		NaOH	
"	()		
"			
<i>P.euroamericana</i> ,	()		
	(CMP)		
	<i>P.deltoides</i>		
<i>P.euroamericana</i>		()	Miller Western Pulp Ltd
	<i>P.deltoides</i>		
	<i>P.euroamericana</i>		
	<i>P.deltoides</i>		
<i>P.euromericana</i> , <i>P.nigra</i>		ISO	
	<i>var betolifolia</i>		ISO

†-Psabourin & Presley
 Δ-Carrasco *et al.*
 ‡-Heimburger *et al.*

\-Allan
 †-Wang
 ‡-Gentile

()

P.euromericana , *P.nigra*

|

var betolifolia

()

cm

()

IMT- Olympus

(HYS)

x

x

(HYBS)

()

()

()

∧ - High Yield Soda
∧ - High Yield Bleached Soda

...

()

T om

T om

.T om

± °C

Scan M :

TAPPI T om

t

T om

TAPPI

P.nigra var brtolifolia P.euroamericana

Tappi

()

.T om

T om

P.nigra, P.euramericana

()

μ	μ	μ	μ	cm	
/	/	/			<i>P.enroamericana</i>
/	/				<i>P.nigra</i>
/	/	/			<i>P.euroamericana</i>
/	/	/			<i>P.nigra</i>

P.nigra P.euroamericana

() t

P.nigra

P.nigra

P.nigra

P.euroamericana

()

P.nigra P.euroamericana

P.euroamericana

P.nigra

$2p/c * 100$	$c/d * 100$	L/d	cm	
/	/	/		<i>P.euroamericana</i>
/	/	/		<i>P.nigra</i>
/	/	/		<i>P.euroamericana</i>
/	/	/		<i>P.nigra</i>

() ()

()

(HYBS)

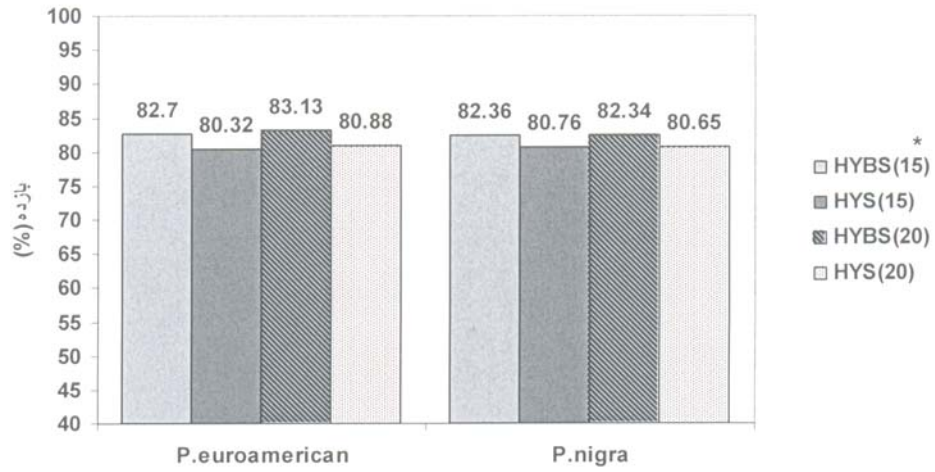
(HYS)

°SR			(min)			cm	
				H O	NaoH		
/	/	HYBS					<i>P.euroamericana</i>
/	/	HYS					<i>P.euroamericana</i>
/	/	HYBS					<i>P.euroamericana</i>
/	/	HYS					<i>P.euroamericana</i>
	/	HYBS					<i>P.nigra</i>
/	/	HYS					<i>P.nigra</i>
	/	HYBS					<i>P.nigra</i>
/	/	HYS					<i>P.nigra</i>

|

P.nigra

P.euroamericana



(HYBS)

(HYS)

P.nigra *P.euroamericana*

		Kpa.m ² /g	km	mN.m ² /g		
/	/	/	/	/	HYS	<i>P.euroamericana</i>
/	/	/	/	/	HYBS	<i>P.euoamericana</i>
/	/	/	/	/	HYS	<i>P.euroamericana</i>
/	/	/	/	/	HYBS	<i>P.euroamericana</i>
/	/	/	/	/	HYS	<i>P.nigra</i>
/	/	/	/	/	HYBS	<i>P.nigra</i>
/	/	/	/	/	HYS	<i>P.nigra</i>
/	/	/	/	/	HYBS	<i>P.nigra</i>

P.euroamericana

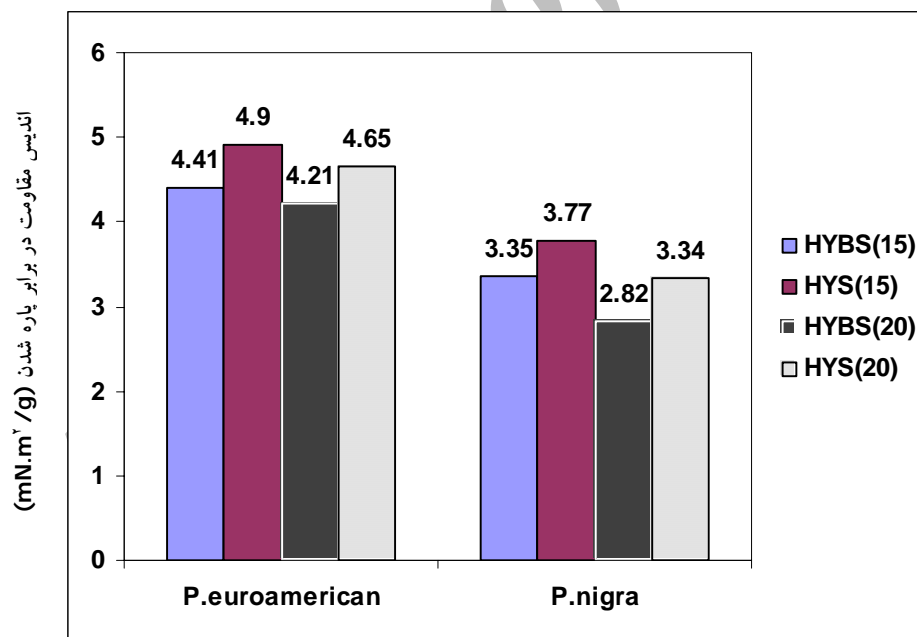
P.euroamericana

P.euroamericana

P.nigra

P.euroamiricana

P.euroamericana



(*)

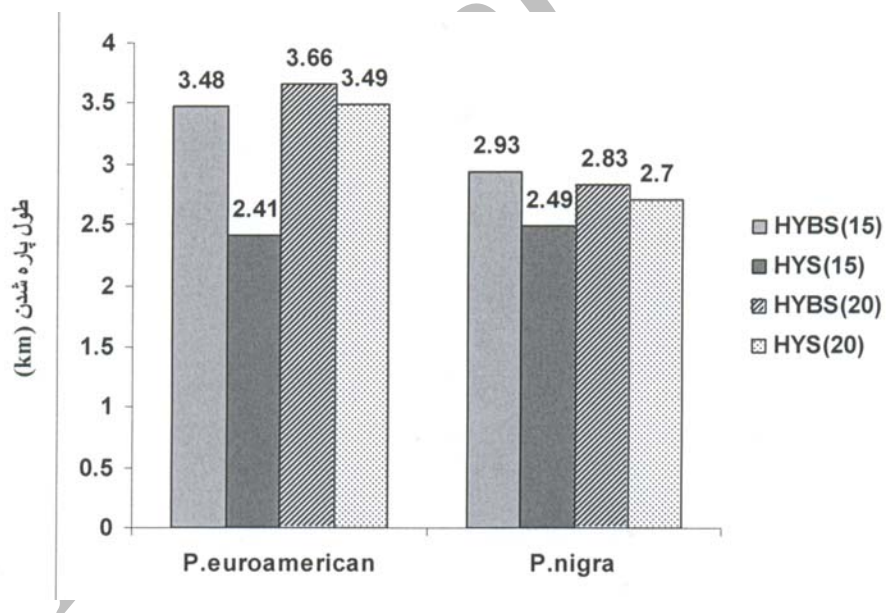
P.euroamericana

P.euroamericana

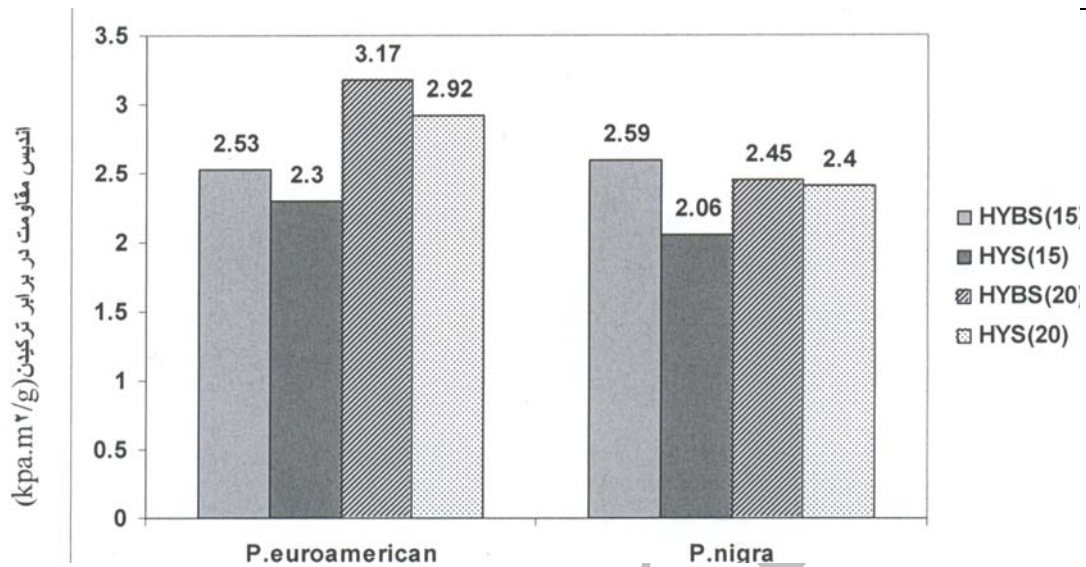
P.euroamericana

P.euroamericana

P.euroamericana



(*)



(HYBS-euro-20)

P.nigra

P.euroamericana

P.euroamericana

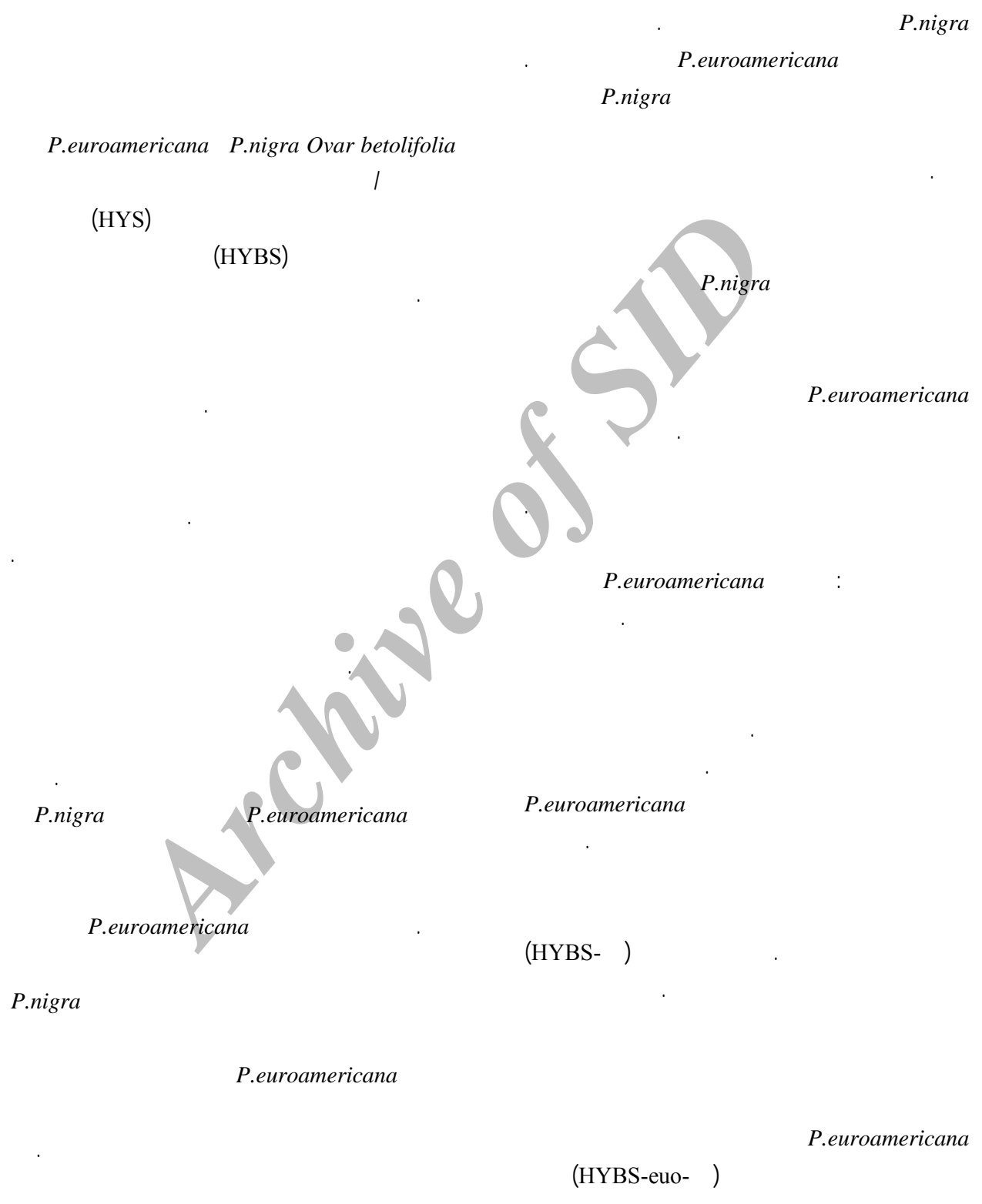
P.nigra

P.euroamericana

P.nigra

P.euroamericana

...



P.nigra

P.euroamericana

P.nigra

P.euroamericana *P.nigra* Ovar betolifolia

(HYS)

(HYBS)

P.nigra

P.euroamericana

P.euroamericana

P.nigra

P.euroamericana

P.euroamericana

P.euroamericana

(HYBS-)

P.nigra

P.euroamericana

P.euroamericana

(HYBS-euo-)

		HYS		HYBS	
		/ mN. m /g			
()				°SR / /	
		<i>P.euroamericana</i>			
		Na CO	+ NaoH		
		/ mN. m /g	/ mN. m /g		
		.()		<i>P.euroamericana</i>	
/	/	HYS		HYBS	
/	/		HYBS		
		<i>P. nigra</i>	<i>P. euroamericana</i>		
		HYS	HYBS	<i>P.enroamiricana</i>	
<i>P. nigra</i>		<i>P. euroamericana</i>			
HYBS -)		(euro-	<i>P.nigra</i>	<i>P.euroamericana</i>	
<i>P. nigra</i>		<i>P. euroamericana</i>		<i>P.euroamericana</i>	
<i>P. euroamericana</i>					
		Na SO		HYS	
(ml csf)			CMP		
		/			
		()			
		<i>P. euroamericana</i>			

\-Leask

KWh/odt

Psi

/ km

Na SO -

NaOH

/ km

(.)

()

P.euroamericana

HYS

/ HYBS

kPa. m /g / /

Na CO + NaOH

kPa. m /g /

/ /

HYBS

/ /

HYS

/

/ HYBS

(HYBS-euro-)

P.euroamericana

P. euroamericana

P. nigra

P. nigra

P.euroamericana

HYBS

P. nigra

HYBS

HYS

()

HYBS

psi

HYS

KWh/odt

P.nigra

KWh/odt

HYBS HYS

P.euroamericana

HYBS

)

P.euroamericana

(

HYBS

P.euroamericana

HYS

HYBS

(HYBS-euro-)

P.euroamericana &

(CMP)

P.deltoides

2-Allan, RS., C.W. Skeet and O.L.Forgacs. 1968; Pulp & Paper Mag. Can. 69(8), Sep, 20, 74-80.

3-Carrasco, F. *et al.* 1994 High Yield Pulping of Aspen Wood: Relation Between Pulp Properties & Fibre Characteristics by Multiple Linear Regression, Wood-Science and Technology. 28:6,409-421.

4-Gentile. V. M *et al.* 1991, Mechanical Pulping Conference Preprints, Tappi Press, Atlanta, P:188.

5-Leask, K.A 1968. Chemi Mechanical Pulps from Hardwoods. Tappi, 51(12): 117A-120A.

6-Sabourin, M. J and Presley, J.R., 1992, Pulping Conference Preprints, Tappi Press, Atlanta, P; 1135.

7-Stan. Heimburger *et al.* 1996. One-and Two-stage APMP- A route to High-Brightness pulp, Tappi, Vol: 79, No:8 August, PP:139-144.

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An Investigation on High Yield Soda Pulp from *P.euroamericana* and *P.nigra* var *betolifolia* Wood

A. Jahan Latibari¹

Sh. Pourmousa²

Abstract

Application of High Yield Soda pulping for the production of unbleached (HYS) as well as bleached (HYBS) pulps from fast-growing poplar species; including two species; *P.nigra* var *betolifolia* and *P.euroamericana* No. 561/41 at two diameter classes (15 & 20 cm) is studied.

Anatomical measurements revealed average fiber length, fiber diameter, lumen diameter and cell wall thickness at 978.63, 23.20, 15.45 and 3.90 μm respectively.

Results in pulping and papermaking studies indicated that the treatment involving *P. euroamericana* species at a diameter of 20 cm, (using HYBS) is superior to the others.

Hand sheets made from the superior treatment possessed a tear index of 4.214 $\text{mN.m}^2/\text{g}$, breaking length of 3.66 km and burst index of 3.17 $\text{kPa.m}^2/\text{g}$. The results in optical studies indicated that highest brightness (59.52 ISO) as well as the lowest opacity (95.22) were obtained through this treatment as compared to other ones.

Keywords: *P.euroamericana*, *P. nigra* var *betolifolia*, High Yield Soda Brightness, Opacity.

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