The 8th IWoRS

Swiss bel Hotel, Ambon, October 21-22, 2016

"Integrated development of wood, ecosystem and biodiversity for sustainable energy and mitigate of climate change"

Programme Book

SCHEDULE

The 8th International Symsopsium of Indonesian Wood Research Society (IWoRS)

AMBON, OCTOBER 21, 2016

Waktu	Acara	Moderator
08.00-08.30	Registration	
09.00-09.30	Opening Ceremony	
09.00-09.10	Organizing Committee Report	
09.10-09.20	Opening ceremony by Head of MAPEKI	
09.20-09.30	Opening ceremony by Rector of Pattimura University	
09.30-09.40	Opening ceremony by Ambon Mayor	
09.10-10.00	Coffee Break	
10.00-11.00	Keynote Speaker I : Dr. Sang Bum Park *Conversion of Woody Resources Into Eco-Friendly Materials by Carbonation*	Prof. Dr. Ir. Yusran Masijaya, M.Sc
11.00-12.00	Keynote Speaker II : Prof. Dr. Ir. Dodi Nandika, MS *Water level management in indonesia's wetland plantation forest to reduce subterranean termite infestation; case in Acacia crassicarpa plantation*	
12.00-13.00	Lunch	
13.00-15.00	Parallel Sessions I	
15.00-15.30	Coffee Break	
15.30-17.00	Parallel Sessions II	
17.30-18.00	The Closing of IWoRs 2016	
19.00-21.00	Banquet	

DAFTAR PESERTA PRESENTASI MAKALAH

BIDANG ILMU : WOOD PHYSICS
RUANG : BANDA NAIRA 1

NO	KODE ABSTRAK	WAKTU	NAMA	JUDUL
Moderator : Evalina Herawati				
1.	A2-01	13.00-13.40	Haruna Aiso	Changes in Anatomical and Chemical Characteristics by Reaction Wood Formation in 28 Tropical Angiosperms Naturally Grown in Indonesia
2.	A2-02		Imam Wahyudi	Several Improvement Techniques for The Inferior Quality of Jabon, Sengon, and Teak Woods From Plantation Forest
3.	A2-03		Tomy Listyanto	Heat Treatment on Colour Change and Durability of Perhutani Superior Teak (*Tectona Grandis* L.F)
4.	A2-04		Wahyu Hidayat	Heat Treatment of Okan Wood (*Cylicodiscus Gabunensis*): Effect of Treatment Duration and Clamping on The Color Change, Physical and Mechanical Properties
		13.40-13.50	**DISKUSI**	
Moderator : Imam Wahyudi				
5.	A2-05	13.50-14.30	Woo-Seok Jeon	Anatomical Characteristics of Stem, Branch, and Root In

				Paulownia Tomentosa Wood and Their Application for Microfibrillated Products
6.	A2-06		Yue Qi	Carbonization of Reaction Wood From Paulownia Tomentosa and Pinus Densiflora Branch Woods
7.	A2-07		Evalina Herawati	Physical, Mechanical and Bolt Bearing Strength Properties Of Meranti and Kapur Wood
8.	A2-08	13.50-14.30	Yun-Ki Kim	Long Term Monitoring on The Durability of Larch Wood Treated with Wood-Tar and Wood-Vinegar
		14.30-14.40	**DISKUSI**	
Moderator : Fauzi Febrianto				
9.	A2-09	14.40-15.20	Opu Affan G	Studies of Nanostructure and MOE of Kumea and Agathis in South of Sulawesi
10.	A2-10		Trisna Priadi	The Durability, Treatability and Drying Properties of Ganitri Wood (*Elaeocarpus sphaericus* Schum) from Sukabumi
11.	A2-11		Susilo Budi Husodo	Natural Wood Color in The Arfak Mountain District Area
12.	A2-12		Istie Rahayu	Physical and Mechanical Properties of Impregnated Sengon by Nano Particle
		15.20-15.30	**DISKUSI**	
Moderator : Trisna Priadi				
13.	A2-13	15.30-16.10	Fauzi Febrianto	Physical, Mechanical and Durability Properties of Bamboo Oriented Strand Board Prepared under Various Pretreatment

ANATOMICAL CHARACTERISTICS OF STEM, BRANCH, AND ROOT IN *Paulownia tomentosa* WOOD AND THEIR APPLICATION FOR MICROFIBRILLATED PRODUCTS

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ABSTRACT

Paulownia tomentosa is a fast-growing wood species in Korea. It is considered to be valuable resources for wood supply and carbon absorption in Korea. To get some information on effective utilization, the anatomical characteristics of stem, branch and root of *P. tomentosa* and their application for microfibrillated products were examined. There were significantly different in vessel number, diameter, fiber wall thickness and ray dimension among stem, branch and root woods. The gelatinous layers in fibers were only found in branch wood. The root wood showed indistinct growth ring compared with stem and branch woods. During microfibrillated products preparation, the grinding time in branch wood was shortest among the samples. The filtration time of branch wood was shorter than those of stem and root woods. The passing cycles significantly affected to the dimension of ground products in the three parts of wood, and the dimensions decreased with increasing passing cycles. That is, the fiber length and width of ground samples from branch wood were smaller than those of stem and root woods. The power consumption of branch

wood was the lowest due to shortest disk-milling time. The branch wood showed higher linear relationship between grinding time and filtration time. There was no significant difference on morphology of fibrillated products by wet disk-milling among all samples, while branch wood showed better dispersion than stem and root. Overall, mechanical grinding of branch was more effective than those of stem and root.

Keywords : **Anatomical Properties, Branch, Microfibrillated Products, Stem, Root *Paulownia tomentosa***