To whom it may concern,

Certificate of Abstract Acceptance & Fee Invoice
The International Conference of Biomass and Bioenergy 2020

This is to certify that the author(s) of this certificate, submitted an abstract of a full paper for the International Conference of Biomass and Bioenergy 2020, and the Paper Committee of the conference has accepted the abstract as a relevant one to the theme and fields of the conference. The recipient is entitled to deliver a presentation and could submit a full paper to the conference.

This is a reminder that the full paper acceptance is subjected to a peer reviewing result, which will be undertaken after the full paper submission that is due on 25 July 2020.

An online conference hosted in Bogor, Indonesia, will be conducted on 10 and 11 August 2020.

If a full paper is accepted, a review and publication fee of IDR 2,250,000 will be due for reviewing, minor corrections and IOP's Conference Series publication costs.

A paper must be presented by one of the authors and a participation fee of IDR 500,000 is due on 19 July 2020. Presenters with or without full papers (fee applied per number of oral presentations delivered, an oral presenter owes the fee, the e-certificate included for the presenter).

Free participations: all co-authors (non-oral presenter only) and non-author participants who are registered for the attendance and optional fee of IDR 200,000 is due for the e-certificate.

Author(s) full name(s): Wahyu Hidayat, Melya Rinarti, Hendra Prasetia, Ainin Niswati, Udin Hasanudin, Jiho Yoo, Sangdo Kim and Sihyun Lee

Submission number: 61

Title of paper: Characteristics of biochar produced from the harvesting wastes of meranti (Shorea sp.) and oil palm (Elaeis guineensis) empty fruit bunches

Yours sincerely

Date: June, 30th 2020

Professor, Dr. Haruhiro Fujita
The Secretary
The International Conference of Biomass and Bioenergy 2020

The International Conference of Biomass and Bioenergy 2020

PAYMENT INVOICE No.58/REG/ICBB2020

To	:	The Secretariat of ICBB 2020, SBRC-IPB University, IPB Baranangsiang Campus, Bogor, Indonesia
Amount Due	:	# IDR 500,000 #
In Payment of	:	Participation Fee of the International Conference of Biomass and Bioenergy 2020 Paper No.61 Wahyu Hidayat

IDR 500,000

Bogor, June 30th 2020

Prof. Dr. Haruhiro Fujita
ICBB 2020 Secretary

Payment method: Bank Transfer or cash
Account holder: Haruhiro Fujita (Secretary of International Conference of Biomass & Bioenergy 2020)
Account number: 0550960213
Branch name: Bogor, Indonesia
Bank name: Bank Negara Indonesia (BNI)
SWIFT code: BNINIDJA
Address: BNI 46 Bogor Branch, Jl. Ir. H. Juanda No.52, Bogor, Indonesia

Please send the payment transfer receipt to icbb.secretariat@gmail.com with the name and submission no. for our reference.

2020

ICBB
INTERNATIONAL CONFERENCE OF BIOMASS AND BIOENERGY 2020

E-PROGRAM BOOK
INTERNATIONAL CONFERENCE OF BIOMASS AND BIOENERGY 2020

"Advanced Technology and Digital Innovations in Biomass, Bioenergy and Agriculture"
10-11 Agustus 2020

Host :

IPB University | SBRC Surfactand and Bioenergy Research Center

Co-Host :

ISBB International Society of Biomass and Bioenergy

Sponsored by :

sawit

Supported by :

ihabi ABgI VILLANOVA UNIVERSITY

	Cellulose Nanocrystal (CNC) as a filler for chitosan based films for cayenne pepper packaging	*graphene-like materials derived from biomass wastes and its electrical conductivity*	*(SnCl2) and Stannous Sulfate (SnSO4) Synthesis from Tin Powderization Waste*	*of bioenergy plantation in Bukit Soeharto Research Forests, East Kalimantan*
	2A-2.48. Biorefinery of Genetically Modified Soybean as Biodiesel with Sustainable Production System in Indonesia: A Review	*2B-2.49. Fuel Properties of Two Types High Speed Diesel Blending with Palm Oil Biodiesel in Indonesia*	*2C-2.51. The parameters study in essential oil extraction from black pepper seeds using microwave hydrodistillation by modeling*	*2D-2.103. Potency and prospect of various raw materials for bioethanol productionn in Indonesia: A review*
	2A-2.55. Comparison of Pyrogallol Derivative Performance using Methyl Linoleate from Sunflower Oil and Corn Oil as Biodiesel Antioxidant Additives	*2B-2.88. Performance Analysis of Microalgae Cultivation in Photobioreactors with IOTs (Internet of Things)*	*2C-2.52. RNA-seq derived identification of coronatine-regulated genes putatively involved in terpenoid biosynthetic pathway in the rubber tree Hevea brasiliensis*	*2D-2.104. Study on Environmental Impact of Electricity Production from Biomass Power Plant System Through Life Cycle Assessment (LCA) Method in Aceh Province Indonesia*
10.15 - 10.30				
	Chair: Haznan Abimanyu	**Chair: Endang Warsiki**	**Chair: Kiyoshi Dowaki**	**Chair: Oki Muraza**
10.30 - 12.00	*2A-3.59. Oil palm empty fruit bunch ash as a potassium source in the synthesis of npk fertilizer*	*2B-3.79. Synthesis of biodiesel from kesambi oil (Schleichera oleosa L.) using carbon nanotube-supported zinc oxide heterogeneous catalyst*	*2C-3.64. Characterization of pyrolysis products derived from palm oil empty fruit bunches*	*2D-3.80. Impact Of B30, B40 And B50 Policies On The Economy Of Indonesia*
	2A-3.81. Using two dosages of biochar from shorea to improve the growth of Paraserianthes falcataria seedlings	*2B-3.61. Characteristics of biochar produced from the harvesting wastes of meranti (Shorea sp.) and oil palm (Elaeis guineensis) empty fruit bunches*	*2C-3.69. Potential of polypropylene Nanocomposite Reinforced with Cellulose Nanofiber from Oil Palm Empty Fruit Bunch as Sustainable Industrial Packaging: A Review*	*2D-3.93. Genetic Diversity Assessment of Indonesian Sorghum Germplasm Based on Agro-morphological Traits*
	2A-3.82. Investigation of Rotary Dryer Performance Fueled by Wood Pellets for Biomass Processing	*2B-3.66. Potential evaluation of anaerobic mono-digestion on dry water primrose for biogas production*	*2C-3.97. Performance evaluation of the levulinic acid production using calendula (Calendula Officinalis) as*	*2D-3.72. Economic Technology Analysis of Furfural Purification Process From Hydrothermal Hydraulic Products from Empty*

[2B-3.61] Characteristics of biochar produced from the harvesting wastes of meranti (Shorea sp.) and oil palm (Elaeis guineensis) empty fruit bunches

Wahyu Hidayat[1*], Melya Riniarti[1], Hendra Prasetia[1], Ainin Niswati[2], Udin Hasanudin[3], Irwan Sukri Banuwa[1], Jiho Yoo[4], Sangdo Kim[4], Sihyun Lee[4]

1. Department of Forestry, Faculty of Agriculture, University of Lampung, Jl. Sumantri Brojonegoro 1, Bandar Lampung, 35145, Indonesia
2. Department of Agrotechnology, Faculty of Agriculture, University of Lampung, Jl. Sumantri Brojonegoro 1, Bandar Lampung, 35145, Indonesia
3. Department of Agroindustrial Technology, Faculty of Agriculture, University of Lampung, Jl. Sumantri Brojonegoro 1, Bandar Lampung, 35145, Indonesia
4. Climate Change Research Division, Korean Institute of Energy Research, Daejon, 34129, Republic of Korea

E-mail: wahyu.hidayat@fp.unila.ac.id

Abstract. The objective of this study was to determine the properties of biochar from meranti (Shorea sp.) and oil palm (Elaeis guineensis) empty fruit bunches (OPEFB). Biochar was produced using a traditional kiln with a temperature of 400°C and 600°C. The char yield, pH, and proximate analysis were evaluated. The results showed that the maximum char yield was obtained at 400°C and the increase of temperature resulted in a decrease of char yield. At the same pyrolysis temperature, char yield was higher in meranti than OPEFB. The results revealed that pH of meranti and OPEFB changed into basic after pyrolysis which is important when biochar is added to soil to neutralize soil acidity and increase the soil cation exchange capacity. The results also showed an increase of fixed carbon in meranti and OPEFB after pyrolysis at 400°C and 600°C.

Keywords: Biochar, meranti wood, oil palm empty fruit bunch