



**BUKTI REVIEWER JURNAL**

**2020/2021 (GENAP)**

**FAKULTAS TEKNOLOGI INDUSTRI  
UNIVERSITAS JAYABAYA**

Manuscript CELS-D-21-00645 for review

Dari: Cellulose (CELS) (em@editorialmanager.com)

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Tanggal: Sabtu, 8 Mei 2021 23.15 GMT+7

Dear Dr. Firdaus,

In view of your expertise I would be very grateful if you could review the following manuscript which has been submitted to Cellulose.

Manuscript Number: CELS-D-21-00645

Title: Characterization of novel natural fiber from manau rattan (Calamus manan) as a potential reinforcement for polymer-based composites

Abstract: The study on novel natural fibers in polymer-based composites will help promote the invention of novel reinforcement and expand their possible applications. Herein, novel cellulosic fibers were extracted from the stem of manau rattan ( Calamus manan ) by mechanical separation. It is the first time to comprehensively analyze and study the chemical, thermal, mechanical and morphological properties of manau rattan fibers by Fourier Transform Infrared Spectroscopy (FTIR), X-Ray Photoelectron Spectroscopy (XPS), X-Ray Diffraction Analysis (XRD), Thermogravimetric Analysis (TGA), single fiber tensile test and Scanning Electron Microscopy (SEM). Component analysis results showed the cellulose, hemicellulose and lignin contents of manau rattan fibers were 42, 20, and 27 %, respectively. The surface of the rattan fiber was hydrophilic according to the oxygen/carbon ratio of 0.49. Manau rattan has a high crystalline index of 48.28%, inducing a high maximum degradation temperature of 332.8 °C. This reveals that it can be used as a reinforcement for thermoplastic composites whose operating temperature is below 300 ° C. The average tensile strength can reach 273.28 MPa, which is beneficial to improve the mechanical properties of rattan fiber reinforced composites. SEM images displayed the rough surface of the fiber, which helps to enhance the interfacial adhesion between the fibers and matrices in composites. This work was also in comparison with some other natural fibers. The above analysis and research showed the great potential of manau rattan fibers as the reinforcement in polymer-based composites.

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We hope you are willing to review the manuscript. If so, would you be so kind as to return your review to us within 14 days of agreeing to review? Thank you.

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If you have any questions, please do not hesitate to contact us. We appreciate your assistance.

Thank you very much.

With kind regards,  
Denise Freitas Siqueira Petri, Ph.D.  
Associate Editor  
Cellulose

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CELS - Thank you - let us know how we can improve the reviewing process - [EMID:2826077a17c89b7c]

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Tanggal: Minggu, 23 Mei 2021 04:31 GMT+7

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Dear Dr. Firdaus,

Thank you very much for your review of manuscript  
CELS-D-21-00645, "Characterization of novel natural fiber from manau rattan (Calamus manan) as a potential reinforcement for polymer-based composites".  
We greatly appreciate your assistance.

With kind regards,  
Springer Journals Editorial Office  
Cellulose

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