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Conference Paper

**Source type**

Conference Proceedings

**ISSN**

25550403

**DOI**

10.1051/e3sconf/202122600008

**Publisher**

EDP Sciences

**Original language**

English

**Volume Editors**

Hendroko Setyobudi R., Winaya A., Burlakovs J., Mel M., Anne O.

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*E3S Web of Conferences* • *Open Access* • Volume 226 • 5 January 2021 • Article number 00008 • 1st International Conference on Bioenergy and Environmentally Sustainable Agriculture Technology, ICoN BEAT 2019 • Malang, East Java • 7 November 2019 through 8 November 2019 • Code 166263

# Physical treatment of Oil palm Shell for briquette production as bioenergy at remote area

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The daily needs of energy in remote areas, Indonesia, is dominated by biomass waste. The abundant types of biomass waste for heat transfer is empty fruits shell (EFS) of oil palm as briquette. This research

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Sing, C.Y. , Aris, M.S.  
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discussed a brief analysis of oil palm shell by using physical treatment at different crushing pressure. It was also to examine the adequate size of particle for improving the heating value of briquette. The crushing pressure had a height dimension of 20 cm, as well as the briquette mold with a diameter of 2 cm and a height of 1 cm. The oil palm shell which was applied physical treatment at different crushing pressure of 400 J, 550 J, and 700 J, that resulted in particle size is smaller than 800  $\mu\text{m}$ , 800  $\mu\text{m}$  to 1 700  $\mu\text{m}$ , 1 700  $\mu\text{m}$  to 2 000  $\mu\text{m}$ , and bigger than 2 000  $\mu\text{m}$ . The adequate size of particle for briquette was found to be < 800  $\mu\text{m}$ , which reached the heating value of 20 042.32 J g<sup>-1</sup> and ash residue of 20 %. This study showed the advantages of oil palm shell briquette by using physical treatment is suitable and sustainable alternative to daily life use in Indonesia. © The Authors, published by EDP Sciences, 2021.

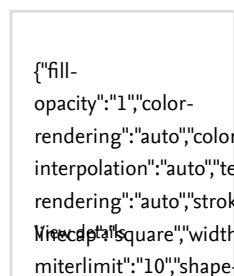
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