Biobriquette Innovation Based on Corn Cob and Coconut Shell Waste with the Addition of Mask Waste as a Quality Enhancer and Hibiscus Flowers as an Adhesive.
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ABSTRACT

The Covid-19 pandemic that occurred in Indonesia is one of the causes of the increase in existing waste, namely mask waste. Corn cob and coconut shell waste is still a contributor to biomass waste which can have an impact on the surrounding environment. One effort to reduce waste requires converting waste into the main ingredient for making fuel. Therefore, this research was carried out with the aim of reducing waste of medical masks, coconut shells and corn cobs to be used as raw materials for biobriquettes. This innovation is expected to be able to overcome mask waste during and after the pandemic and reduce biomass waste with the resulting output being environmentally friendly products. The pyrolysis method was carried out for 12 hours at a temperature of 80°C. The research variables used were the ratio of raw materials for corncob charcoal, coconut shell charcoal, and hibiscus leaf adhesive with 3 sample variations. The data taken includes biobriquette characteristic parameter data (water content, ash content, volatile meter, fixed carbon, density and heating value). The test results showed that the highest water content was in the BB3 composition, the highest ash content was in the BB3 composition, the highest volatile meter was in the BB1 composition, the highest fixed carbon was in the BB2 composition, the highest density value was in the BB3 composition, and the highest heating value was in the BB1 composition with a heating value of 9000 cal/gr. Besides, the addition of mask waste can increase the calorific value of biobriquettes, where the calorific value obtained is 9,000 cal/gr, water content 0.9%, ash content 0.14%, and fixed carbon 76.87%.

Key words: biobriquettes; mask waste; coconut shell; corncob