Making of Tea Dregs And Rice Husk Briquettes Using Molasses Adhesive Using Pyrolysis Method

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ABSTRACT

This study aims to analyze the effect of molasses adhesive composition on the quality of briquettes made from tea dregs and rice husks and to determine the characteristics of tea dregs and rice husk briquettes using molasses adhesive. The research was carried out through several stages, namely the preparation of raw materials, drying of raw materials, pyrolysis of rice husks and tea dregs, raw materials mashed with a 40 mesh sieve, mixing of molasses adhesive, printing, drying and testing the characteristics of briquettes. The pyrolysis process takes 1 hour for the preparation of rice husks and 1.5 hours for the preparation of tea dregs with no or little air. The results showed that the best composition was TSM2 with a ratio of 30% tea dregs and 70% rice husks. The results of the study with the best composition, namely TSM2, calorific value 3771 cal/g, moisture content 9.28%, ash content 6.92%, density 1.16 gr/cm3, kamba density 0.49 gr/cm3, combustion rate 0.031 gr/ s. TSM1 10% tea dregs charcoal and 90% rice husk charcoal calorific value 3399 cal/g, moisture content 8.94%, ash content 8.02%, density 1.51 g/cm3, kamba density 0.53 g/cm3, burning rate of 0.049 gr/s and TSM3 50% tea dregs charcoal and 50% rice husk charcoal calorific value 4192 cal/g, moisture content 9.98%, ash content 6.85%, density 0.86 gr/cm3, kamba density 0.43 gr/cm3, the combustion rate is 0.025 gr/s.

Keywords*: briquettes, tea dregs, rice husks, molasses adhesive, pyrolysis, characteristics of briquettes*