ABSTRACT

Biomass is an organic material produced through photosynthetic processes, either as a main product or as a by-product. Examples include plants, trees, tubers, grasses, animal manure, human waste, agricultural residues, and more. This study aims to analyze the optimal characteristics of briquettes made from a combination of sengon wood sawdust and cow manure, as well as to examine the effect of the pyrolysis process on the quality of the resulting biobriquettes. The raw material compositions used in this research consisted of three variations: 45% cow manure and 55% sengon wood sawdust, 50%:50%, and 55% cow manure with 45% sengon wood sawdust. The results of the study showed that the highest quality briquettes, which met the SNI 01-6235-2000 standard, were obtained from pyrolyzed briquettes with a composition of 45% cow manure and 55% sengon wood sawdust. These briquettes had a calorific value of 5960.920 cal/g, moisture content of 4.785%, ash content of 1.560%, volatile matter of 1.436%, fixed carbon of 92.220%, and a burning rate of 0.006 g/s.

***Keywords**: Biomass, Briquettes, Cow Manure, Sengon Wood Sawdust*