

Pengaruh Variasi Komposisi Bahan Baku Limbah Tongkol Jagung dan Kotoran kambing dengan Perekat Molase Terhadap Kualitas Briket. (*The Effect of Variations in the Composition of Corn Cob Waste and Goat Manure with Molasses Adhesive on Briquette Quality*). Supervised by : Yuli Hananto, S.TP., M.Si.

Muhammad Hasani
Study Program Renewable Energy Engineering
Majoring of Technique

ABSTRACT

Energy needs are increasing, while the use of fossil fuels can cause negative effects on the environment and climate change. This necessitates the development of alternative, environmentally friendly renewable energy sources, one of which is biomass. This study aims to analyze the characteristics and best composition of corncob and goat manure waste with molasses adhesive. Corncobs and goat manure are agricultural and livestock waste that have not been optimally utilized and are abundant in the community. Molasses was chosen as an adhesive because of its high sugar content and can glue the briquettes and improve the quality of the briquettes. The briquette making process is carried out through the pyrolysis method of raw materials, with a composition of 30% adhesive and variations in raw materials of corncob and goat manure waste of 72%:25%, 80%:20%, and 85%:15%. The parameters tested to assess the characteristics of the briquettes include moisture content, ash content, calorific value, density, had a bulk density, Volatile matter, bound carbon, and combustion rate. The results showed that the sample with a composition of corn cobs and goat manure 85%:15% gave the best results in six of the eight test parameters. V3 moisture content of 6.03%, V3 ash content of 7.03%, V3 calorific value of 5231.115 cal/gr, V3 density of 1 gr/cm³, V1 had a bulk density of 0.04 gr/cm³, V3 volatile matter of 9.26%, V3 bound carbon of 77.67%, and V1 combustion rate of 0.0072 gr/s.

Key word : briquettes, corn cobs, goat manure, molasses.