MAKING BRIQUETTES FROM SENGON WOOD POWDER WASTE WITH A MIXTURE OF DRY KETAPANG LEAVES USING TAPIOCA ADHESIVE

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Abstract

Biomass is organic material produced from animals and plants. In addition to the primary purposes of fiber, animal feed, and building materials, biomass is also used as a fuel energy source. Forms of energy conversion from biomass include biomass briquettes as an alternative fuel. Based on the above problems "Making Briquettes from Sengon Wood Powder Waste with a Mixture of Dried Ketapang Leaves Using Tapioca Adhesive" is deemed necessary. In this study, the raw materials were pyrolyzed using a furnace with a temperature of 300-350ºC for 4-5 hours. Data processing of research results using 2 factorials, each factor consisting of 3 levels and 2 repetitions. The first factor is the composition of raw materials of sengon powder and ketapang leaves (A) 90%: 10%, 80: 20%, to 70: 30%, while the second factor is tapioca adhesive (B) with a ratio of 5%, 7%, and 10%. The data taken is the average of the repetition results of the treatment variations. The results of the recapitulation of variance on the raw materials of sengon wood powder and ketapang leaves (A) and tapioca adhesive (B) which stated that the effect was not significant (tn) on all treatments. The briquette characteristics of all parameters including moisture content 6.355% - 7.853%, ash content 5.162% - 8.210%, density 0.864g/cm^3 - 1349g/cm^3, burning rate 0.140g/min, and calorific value 4666kal/g - 5711kal/g showed that the briquette variation parameters did not all meet SNI 01-6235-2000 standards, namely sample A3B1 which has a calorific value below SNI and A3B3 with ash content exceeding the maximum ash content of SNI.

Keywords: *Sengon Wood Powder, Ketapang Leaves, Tapioca Adhesive, Briquettes.*