ABSTRACT

THE PRODUCTION OF BIOGAS FROM CASSAVA WITH STARTER THAT IS COW’S FECES

BY

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Biogas technology is easily applied and many raw materials are available in a variety of areas such as livestock waste, agricultural waste, industrial waste and the like which has a high organic content. This study aimed to determine the production, productivity biogas, hydraulic retention time, and the quality of the biogas made from cassava and cassava leaves with cow dung as a starter. Experiments were performed using a completely randomized design (CRD) which is arranged with four treatments (A to D) and four repetitions. Substrate composition of cassava leaves, cassava tuber, and cow dung was A (15: 0: 85), B (0:15:85), C (0:25:75), and D (0:35:65). Analysis of variance was performed using SAS statistical program. The results showed that substrate composition significantly affected the total biogas production, but did not significantly affect the biogas yield. The highest biogas production was obtained from treatment C amounting to 6995 ml. The average biogas yield was 130,85 mL/g TVS. Based on burning test, biogas produced from treatment C and D provided a blue flame which indicates an adequate content of CH₄ in the biogas as fuel.

Keywords: Biogas, Cassava, Cow’s Feces and Production