

***Effect of Storage Time on Quality of Cow Manure Biogas With Rice Husk
Adsorbent***

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ABSTRACT

The utilization of biogas has only reached 26 million cubic meters from the target of 489 million cubic meters per year 2025 so that the development of biogas production is actively being carried out to achieve the target of the EBT mix in 2025 by 23%. The gas used as fuel is methane (CH₄), while other gases produced can inhibit the combustion process. This research was conducted based on the objectives to be achieved, namely to determine the quality of biogas when stored with rice husk adsorbents for a period of 30 days, and to determine the optimal storage time for biogas content. The method in this study is a quantitative research method. Data were obtained primarily by testing the content of biogas samples from the farm at State Polytechnic of Jember cage and tested at Greenhouse Gas Laboratory in Pati, Central Java. In addition, a flame test was also carried out on the sample. The results obtained from this study are that storage time affects the quality of biogas, with storage without adsorbent having a CH₄ content of 193121.56 ppm, but also having a CO₂ content of 33604.82 ppm. Storage with added rice husk adsorbent resulted in the optimal time for the sample variation of 10 days with methane gas content of 56748.84 ppm. Meanwhile, in the variation of 20 days and 30 days, the methane gas content decreased, namely 27971.42 ppm and 11265.88 ppm. In this case, the combination of storage and purification is good for improving the quality of biogas, but without exceeding the optimum absorption time on the adsorbent.

Keywords: Storage, Biogas, Adsorbent, Rice Husk