

ABSTRACT

Ravanska Alfaresa Ryantara, S1 Physic Engineering Program, Faculty of Engineering, Telkom University, in Februari 2014, *Influence Analysis of Internal Pressure on Anaerobic Digester for Biogas Productivity from Mixture of Cow Manure and Tofu Wastewater*, Supervisor : Amaliyah Rohsari Indah Utami, S.T., M.Si. as The First Supervising Lecturer I and Indra Chandra, M.Si. as The Second Supervising Lecturer.

Biogas is one of alternative energy for tackling the energy crisis the longer fossil-fired on the wane and can cope with the problem of air pollution. Pollution from methane gas can be utilized by biogas as a fuel. The substrate used in this research as a producing biogas is a mixture of cow manure and tofu wastewater.

Methane Gas production of biogas results influenced by the degree of acidity (pH), temperature, substrate, and internal pressure typical analysis for digester biogas. The purpose of this research is to know the influence of internal pressure typical analysis for digester biogas to the retention time of productivity and influence internal pressure typical analysis for digester biogas to productivity.

Observations have been made internal pressure factor on two typical analysis for digester biogas that is identical with the different treatment for 9 days. Typical analysis for digester-1 with gas is not being supplied to a typical analysis for digester gas and digester-2 with gas being supplied to gas tandon. According to observations, internal pressure typical analysis for digester anaerobic biogas has a role in the productivity of methane gas-producing bacteria. It can be seen from the concentration of methane gas on a typical analysis for digester-1 greater than the typical analysis for digester-methane concentration 2. Total concentration of methane gas on the 9th day of the typical analysis for digester-1 (92.074 ppm) larger 10,69% compared to typical analysis for digester-2 (83.177 ppm). Internal pressure typical analysis for digester biogas does not affect the retention time biogas production. Biogas production and retention time for a mixture of cow manure substrate and tofu wastewater with the comparison of volume 2: 1 is on day 5. The average increase in the concentration of methane gas a day typical analysis for digester of 10.230,4 ppm for a typical analysis for digester-1 and 9.241,83 ppm for a typical analysis for digester-2. From these data suggest increases in the concentration of methane gas a day typical analysis for digester-1 greater 9,66% compared to typical analysis for digester-2.

Keywords – biogas, methane, digester internal pressure, substrate temperature, substrate pH, cow manure, tofu wastewater