

ABSTRACT

Biogas is a mixture of gas produced by microorganisms or anaerobic organisms. Biogas can be produced from substrates such as agricultural waste, manure, city waste, and food waste. Biogas can be produced by the life cycle of the bacteria naturally as a by-product of the process of metabolism. The production of biogas in this process is influenced by the environment conditions such as pH level. It is known that the biogas production in the pH level of 6.8 – 7.2 is more effective[1].

The purpose of this study identify and analyze the biogas production with a pH level of different conditions, conditioned at a pH level of 6.8 – 7.2 and without conditioned. As well as measuring the value of COD (Chemical Oxygen Demand) and TSS (Total Suspended Solid) with the same conditions of pH level.

In this study, the substrate used is rice. From the experiments obtained by the gas volume of the largest production occurs at pH conditioned, occurred on day 4 with 8.31 liters of gas. The decline in value of COD, pH is conditioned by 54% or 1332 ppm. The decline in value of TSS conditioned at a pH of 41.4% or 750 ppm.

Keywords: Biogas; Gas Volume; pH level; COD Value; TSS value.