

STUDI PENGARUH OPERASIONAL KOMBINASI FEEDING BIOSTARTER DAN FEEDING AIR DALAM REAKTOR (PILOT PLANT) ANAEROBIK DIGESTER SKALA KECIL

*Muhamad Alfi Ulumillah, M. Arief Budihardjo, Haryono S. Huboyo *)*

ABSTRACT

The research was conducted as the starting point on knowing how big the addition biostarter influence and water to potency biogas which is produced from organic waste degradation process of market and restaurant by anaerobic process. In this research is biostarter fuction as catalyst to quicken organic waste degradation process. While water addition function as moisturizer substrat factor in digester. Contribution of addition biostarter combination and water in this research, able to yield a lot of biogas with contains methane gas which is high enough. This research represent laboratory scale experiment using batch system with fifth variations of treatment observed. The variations aim to determine a most effective variation with criteria is a variation which capable to yield a lot of biogas volume and methane gas and the high efficiency of quality slurry reduction on a brief HRT (Hydrolic Retention Time). The result of research indicates that methane gas percentage in biogas at every variant range from 21.89 - 30.78 % acid substrat level 5.47 - 7.41, which still at a good range for bacteria for live and the efficiency of quality slurry reduction at every variant especially at his organic content range from 15.29 - 93.92 %. Bacteria performance in anaerob process have shown result which optimal enough.

Keywords : organic waste; biogas and methane gas; anaerobic digester; biostarter and water