**Batch and semi-continuous biogas production from cattle manure**

ABSTRACT

Anaerobic digestion of cattle manure was investigated to estimate the volume and the quality of biogas produced for both batch and semi-continuous system. The process was performed in a lab scale bioreactor at 55oC; the semi-continuous experiment was conducted at an organic loading rate (OLR) of 1.7 kg VS m-3 day-1 equivalent to hydraulic retention time (HRT) of 20 days. The volatile solid-based biogas and methane yield were observed to be averagely 0.346 m3 kg -1 VS added and 0.19 m3 kg -1 VS added respectively. The average methane content was 55% from the cattle manure during the anaerobic digestion process. Overall, the result of this study indicates that the quality of biogas obtained from the cattle wastes can be used for heat and power production

**Keyword:** Anaerobic digestion; Cattle manure; Biogas production; Batch; Semi-continuous.