

ABSTRACT

An investigation on the effect of total solids on biogas production was done using a laboratory scale batch reactor of 0.15 m³ capacity. The feedstock was dung from dairy cows managed under a free-range system. Experiments were done on a substrate having total solids of 6%, 7%, 8%, 9%, and 10% at a constant temperature of 35°C; and the mean biogas production was 0.249, 0.304, 0.487, 0.287, and 0.244 m³ of biogas per m³ of digester volume per day (m³/m³d), respectively. It was concluded that the highest average biogas production of 0.487 m³/m³d is attained at total solids of 8%.