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A study on pig wastewater treatment with low cost biodigester

Abstract

The performance of a 12.3 m³ of bag biodigester for the treatment of swine waste was studied. Waste came from a small farm of 20 fattening pigs of Havana province.

Remove of total solids (TS), volatile solids (VS) and the chemical oxygen demand (COD) were respectively 74%, 69% and 71%. Temperatures of waste at entrance and exit were respectively 24.4 and 25 Celsius degrees, while environmental temperature was 24.7 Celsius degrees. Daily waste per day was 778 liters while water using for cleaning the barn was 694 liters total per day and 34.7 liters per animal per day. The use of water for cleaning was high, thus hydraulic retention time (HRT) was 15.9 days. Daily production of biogas (3.49 m³) was used for cooking food for a family of 6 people including a child. A 4 place kitchen stove was adapted for the use of biogas instead of the use of petroleum liquid gas.

Key words:

biogas, plastic, retention time



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