

The Use of Acti-Zyme™ in Biogas Production using Pig Manure

By

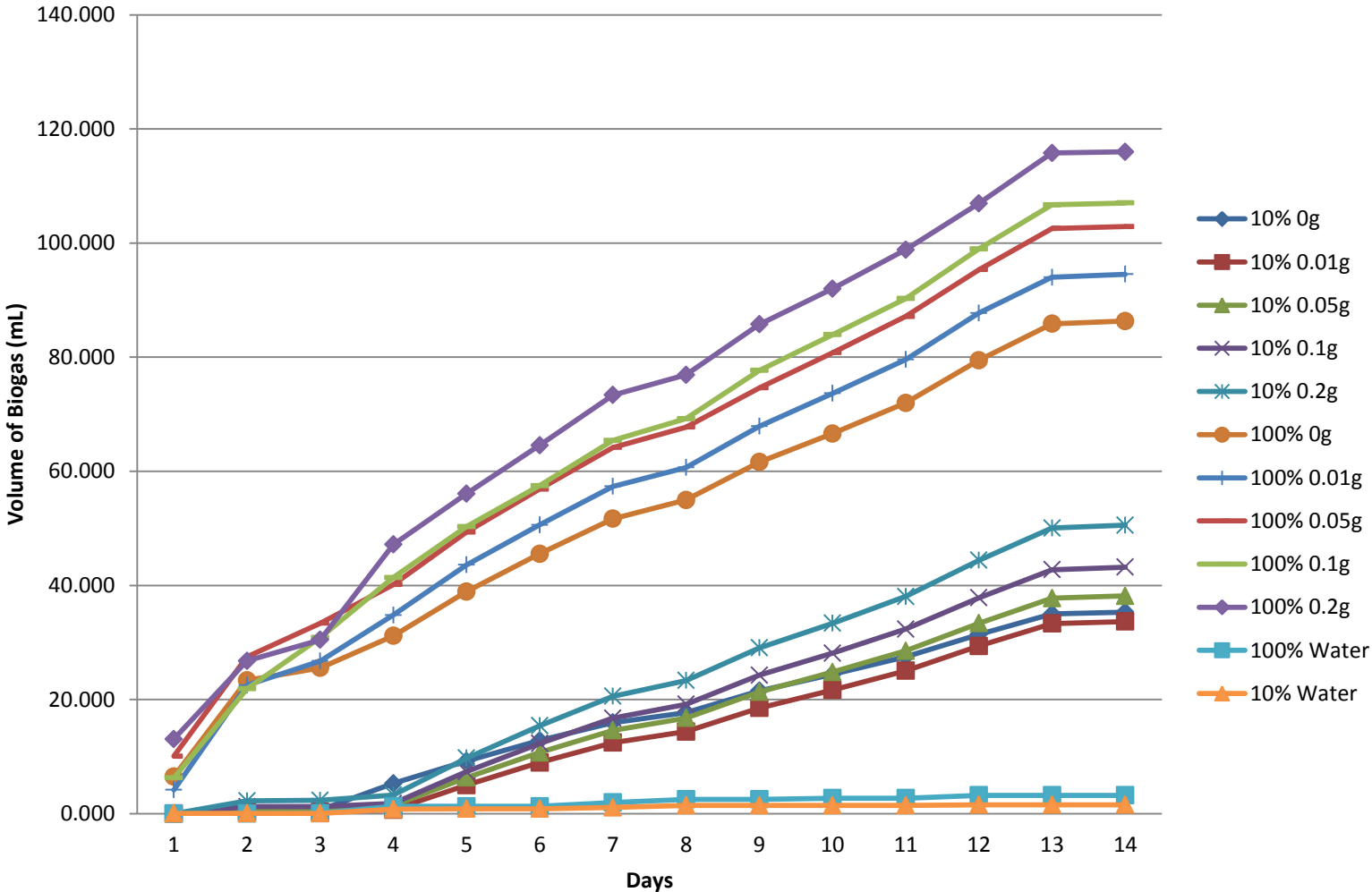
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Summary

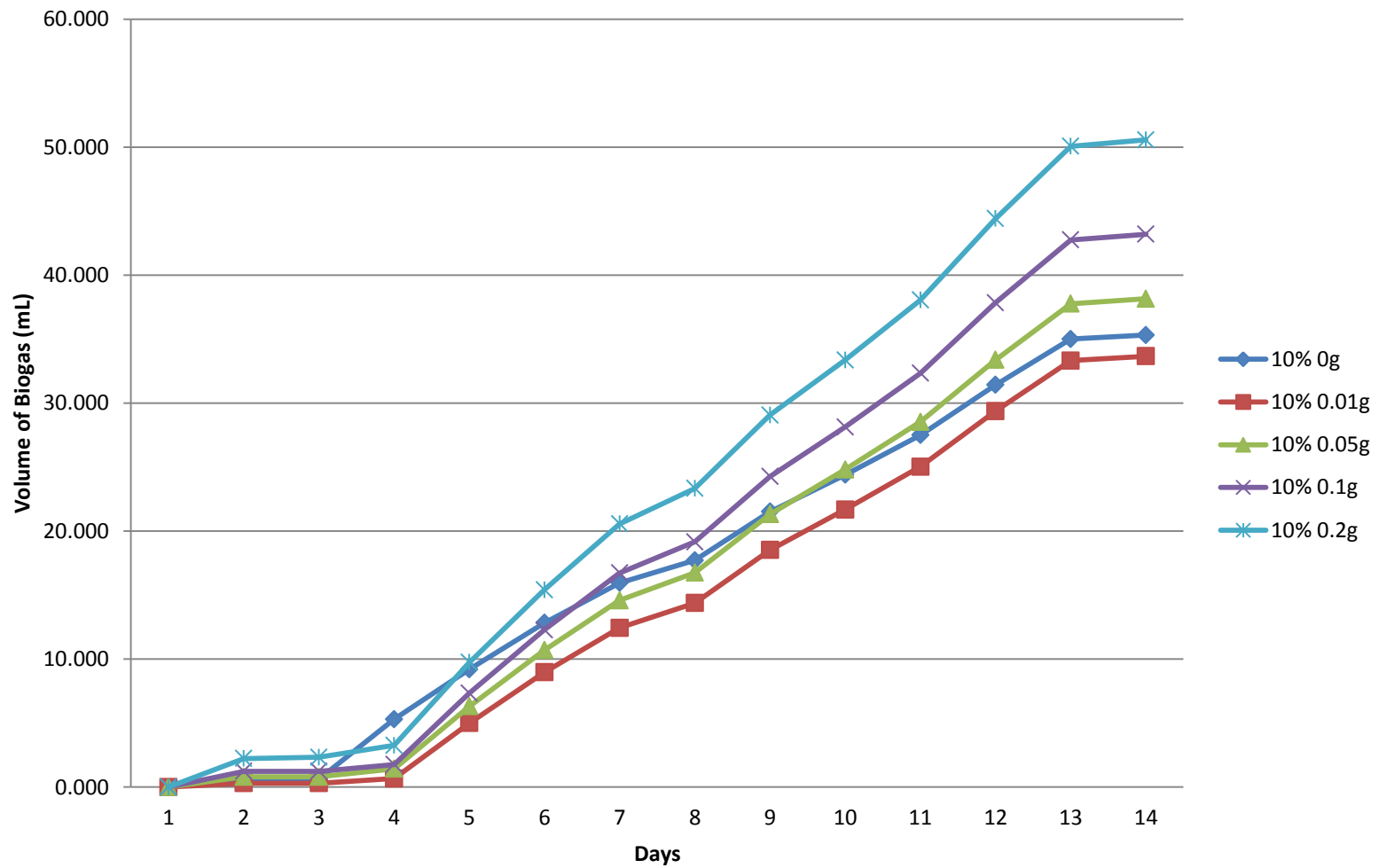
This project examines the effects of different concentrations of Acti-Zyme™ on the production of biogas in pig manure slurry. The manure was tested at both 10 and 100% concentrations. The concentrations of Acti-Zyme™ tested were 0.0125, 0.0625, 0.125 and 0.25 percent. The Acti-Zyme™ and manure mixtures were incubated in anaerobic incubation bottles at 37°C for 15 days, and were set up in quadruplicates. Daily biogas production volume and pressure of each mixture were measured using a syringe and a pressure transducer. The initial pressure of the transducer was recorded, and biogas volume was measured as the volume aspirated from the bottle until the pressure measurement in the transducer is zero.

The results of the investigation show that daily and cumulative biogas production increased as the concentration of Acti-Zyme™ increased and the rate of increase was proportional to the concentration of Acti-Zyme™ that was added. It was also observed that the gross biogas production was significantly higher at 100% manure than at 10%. This means that the manure does not need to be diluted with water to obtain significant biogas production.

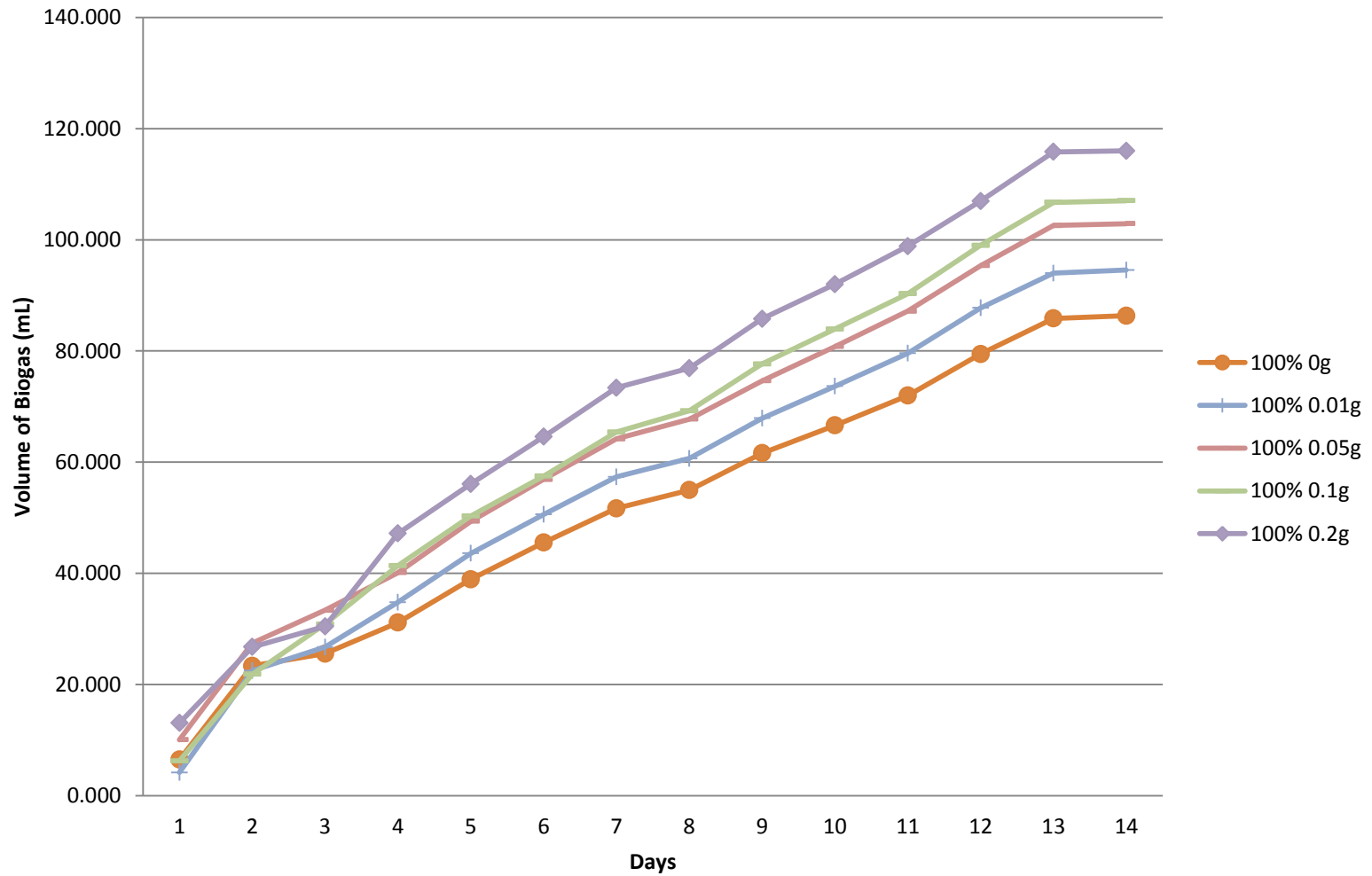
Effects of Acti-Zyme Concentration on Biogas Production at 10 and 100% Pig Manure Concentration



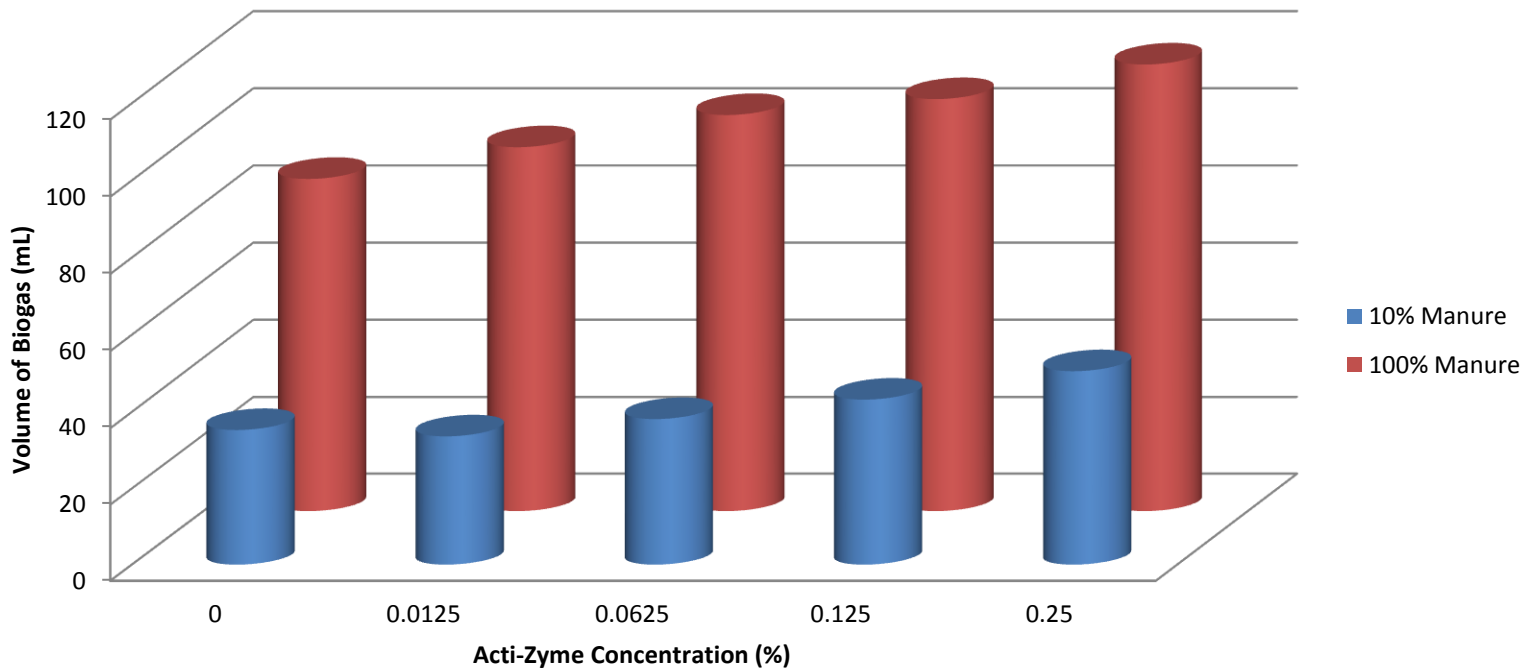
Effects of Acti-Zyme Concentration on Biogas Production at 10% Pig Manure Concentration



Effects of Acti-Zyme Concentration on Biogas Production at 100% Pig Manure Concentration



Effects of Acti-Zyme Concentration on Biogas Production in Pig Manure over 15 Days



Effects of Acti-Zyme Concentration on Biogas Production in Pig Manure over 15 Days

