

Supplementary Materials

The impact of biosolids biochar on biomethane production from the anaerobic digestion of chicken manure

Supplementary Figures

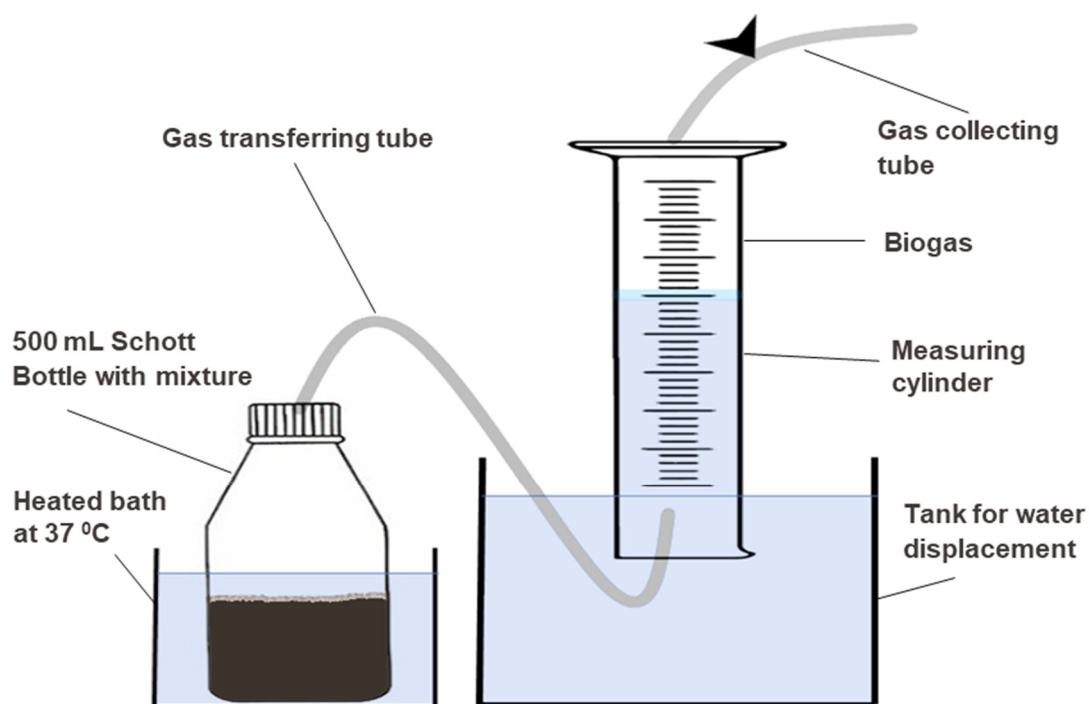


Figure S1. Experimental design of the anaerobic digestion of chicken manure.

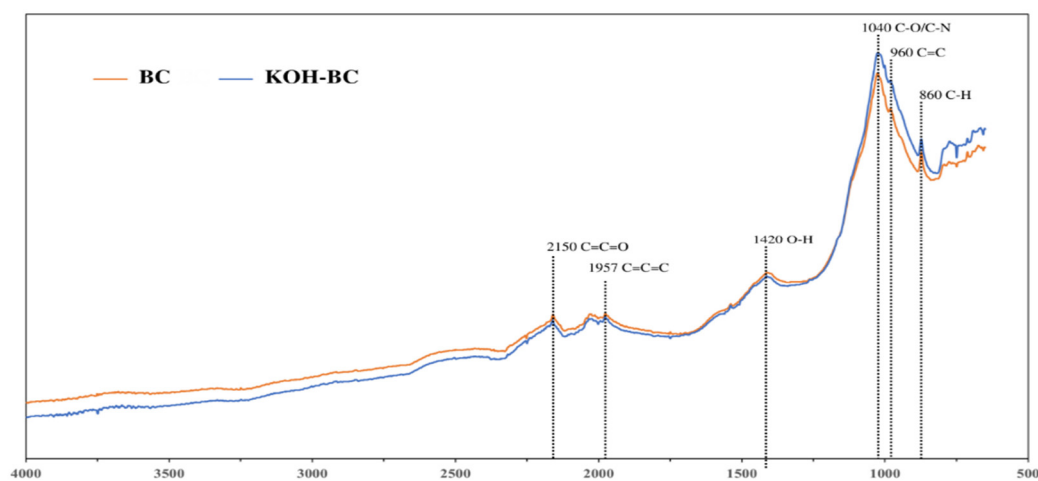


Figure S2. Fourier Transformed Infrared (FTIR) spectra of biosolids biochar (BC) and modified biochar (KOH-BC).

Change in TAN (mg L⁻¹) = TAN at day 18 (mg L⁻¹) – TAN at day 0 (mg L⁻¹)

TAN Reduction (%) = [(TAN_{control} at day 18 – TAN_{biochar treatments} at day 18)/ TAN_{control} at day 18] x100

Figure S3. Change in Tan (mg L⁻¹) and TAN Reduction (%) equations.

Supplementary Tables

Table S1. The mass and volume of materials added to digesters with different treatments.

Treatment	Feedstock (g)	Inoculum (ml)	Biochar (g)	Milli-Q water (ml)
Chicken manure, Sludge (No biochar)	42	229	-	18.5
Chicken manure, Sludge, and Biosolids biochar (BC)	42	229	21	158.4
Chicken manure, Sludge, and alkali biosolids biochar (KOH-BC)	42	229	21	158.4

Table S2. The main surface functional groups of biosolids biochar (BC) and modified biochar (KOH-BC) identified from FTIR spectra.

Waveband (cm ⁻¹)	Functional group
2150	C≡C≡O stretching
1900-2000	C=C=C stretching
1330-1420	O-H bending
1040-1050	CO-O-CO stretching
1020-1250	C-N stretching
960-980	C=C bending
860-900	C-H bending