Table 1- Characteristics of the cheese whey and the screened liquid fraction of manure used in the present study (Mean ± SD).

Parameter	CW	SLF
TS ($g\ L^{-1}$)	55.1 ± 1.9	43.2 ± 4.8
VS ($g\ L^{-1}$)	47.8 ± 1.8	31.6 ± 3.7
COD ($g\ L^{-1}$)	57.5 ± 1.7	53.2 ± 4.5
COD_{VFA} ($g\ L^{-1}$)	0	7.8 ± 1.9
TKN-N ($g\ N\ L^{-1}$)	1.2 ± 0.2	2.4 ± 0.2
NH_4^+-N ($g\ N\ L^{-1}$)	0.2 ± 0.1	1.0 ± 0.2
C/N	22.1 ± 0.8	9.1 ± 1.5
P_T ($g\ P\ L^{-1}$)	0.2 ± 0.1	0.7 ± 0.1
BA ($meq\ L^{-1}$)	0	159 ± 67
BMP ($L\ CH_4\ kg^{-1}$)	17.1 ± 0.4	8.6 ± 1.2

Table 2- Influent and effluent main parameters of the CSTR digester with different CW:SLF ratios at an HRT of 15.6 days

	CW:SLF ratio							
Influent	**15:85**	**25:75**	**35:65**	**45:55**	**55:45**	**65:35**	**75:25**	**85:15**
pH	7.6 ± 0.1	6.6 ± 0.4	6.7 ± 0.2	6.8 ± 0.1	6.6 ± 0.1	6.9 ± 0.2	6.6 ± 0.2	6.4 ± 0.1
COD (g L^{-1})	47.6 ± 5.5	58.9 ± 7.7	57.8 ± 2.4	54.1 ± 1.2	55.5 ± 1.8	57.3 ± 2.1	58.7 ± 1.8	59.8 ± 3.5
COD_{VFA} (g L^{-1})	5.8 ± 1.5	5.4 ± 0.6	4.2 ± 0.5	4.9 ± 0.8	3.6 ± 0.3	2.4 ± 0.2	2.3 ± 0.3	1.4 ± 0.1
TS (g L^{-1})	42.7 ± 6.9	48.1 ± 3.5	49.0 ± 1.2	47.8 ± 3.7	48.2 ± 2.7	51.0 ± 2.2	52.1 ± 1.6	53.5 ± 2.7
VS (g L^{-1})	31.2± 4.5	36.5 ± 3.0	37.9 ± 1.1	38.4 ± 3.2	39.0 ± 2.6	41.5 ± 1.8	43.1 ± 1.6	46.4 ± 3.2
BA (meq L^{-1})	112 ± 35	58 ± 27	49 ± 12	98 ± 6	74 ± 55	41 ± 7	27 ± 9	16 ± 6
VA (meq L^{-1})	68 ± 12	125 ± 22	96 ± 9	108 ± 6	72 ± 41	82 ± 15	72 ± 11	57 ± 3
Effluent								
pH	7.9 ± 0.2	7.7 ± 0.4	7.6 ± 0.1	7.6 ± 0.2	7.6 ± 0.4	7.3 ± 0.1	7.2 ± 0.1	7.1 ± 0.2
COD (g L^{-1})	22.6 ± 2.1	22.8 ± 3.2	21.4 ± 1.3	19.3 ± 2.0	19.9 ± 2.6	20.8 ± 1.5	19.9 ± 2.7	18.1 ± 3.3
COD_{VFA} (g L^{-1})	0.09 ± 0.02	0.12 ± 0.08	0.08 ± 0.04	0.11 ± 0.05	0.08 ± 0.03	0.06 ± 0.02	0.06 ± 0.02	0.06 ± 0.02
TS (g L^{-1})	20.6 ± 2.1	21.8 ± 1.7	20.7 ± 0.9	19.9 ± 1.7	21.2 ± 1.6	20.7 ± 2.2	21.8 ± 1.7	21.2 ± 1.7
VS (g L^{-1})	13.6 ± 1.6	14.3 ± 1.5	13.6 ± 0.6	13.0 ± 1.5	14.0 ± 1.2	13.6 ± 1.0	14.3 ± 0.7	13.9 ± 1.1
BA (meq L^{-1})	390 ± 47	326 ± 27	254 ± 9	260 ± 12	265 ± 12	190 ± 32	149 ± 9	122 ± 13
VA (meq L^{-1})	4 ± 2	10 ± 8	5 ± 3	6 ± 5	13 ± 5	12 ± 3	19 ± 2	16 ± 4

The values showed are the mean values ± SD of five duplicate samples for each experimental condition.

Table 3- Influent and effluent main parameters of the CSTR at a constant 65:35 CW:SLF ratio and a decreasing HRT

	HRT (days)				
Influent	**15.6**	**13.1**	**11.4**	**10.0**	**8.7**
pH	6.9 ± 0.2	6.6 ± 0.1	7.6 ± 0.1	7.4 ± 0.1	7.5 ± 0.1
COD (g L^{-1})	57.3 ± 2.1	54.2 ± 1.2	60.0 ± 1.7	60.0 ± 0.8	59.1 ± 1.8
COD_{VFA} (g L^{-1})	2.4 ± 0.2	3.5 ± 0.9	2.1 ± 0.2	2.1 ± 0.4	2.2 ± 0.6
TS (g L^{-1})	51.0 ± 2.2	55.2 ± 1.4	59.6 ± 0.3	62.0 ± 0.7	60.4 ± 0.9
VS (g L^{-1})	41.5 ± 1.8	47.3 ± 1.2	49.9 ± 0.2	52.5 ±0.6	50.9 ± 0.8
BA (meq L^{-1})	41 ± 7	44 ± 11	45 ± 10	94 ± 17	94 ± 12
VA (meq L^{-1})	82 ± 15	89 ± 10	83 ± 12	62 ± 14	62 ± 8
Effluent					
pH	7.3 ± 0.1	7.3 ± 0.1	7.7 ± 0.2	7.6 ± 0.1	7.2 ± 0.2
COD (g L^{-1})	20.8 ± 1.5	20.4 ± 2.2	24.3 ± 1.7	24.6 ± 1.1	24.5 ± 2.6
COD_{VFA} (g L^{-1})	0.06 ± 0.02	0.10 ± 0.05	0.70 ± 0.28	0.77 ± 0.13	2.6 ± 0.36
TS (g L^{-1})	20.7 ± 2.2	24.8 ± 1.2	27.1 ± 0.3	28.6 ± 0.5	29.6 ± 0.7
VS (g L^{-1})	13.6 ± 1.0	16.3 ± 1.3	17.9 ± 1.5	19.2 ± 0.6	20.8 ± 0.9
BA (meq L^{-1})	190 ± 32	186 ± 24	203 ± 25	176 ± 18	146 ± 10
VA (meq L^{-1})	12 ± 3	14 ± 8	11 ± 12	16 ± 3	36 ± 7

The values showed are the mean values ± SD of five duplicate samples for each experimental condition.

Table 4- Operational features of successful continuous anaerobic co-digestion systems for cheese whey and animal manure-slurry.

Substrates	CW fraction in the feed (%)	Reactor type	T[a] (ºC)	VS reduction (%)	HRT (days)	OLR (kg VS m^{-3}·d^{-1})	Biogas production (m^3 m^{-3} d^{-1})	CH_4 in biogas (%)	Reference
CW + dsDM	50	One-stage CSTR	34	25.8	5	8.6	1.5	60	Kavacik and Topaloglu (2010)
CW + dsDM	50	One-stage CSTR	34	49.4	10	4.9	1.2	60	Kavacik and Topaloglu (2010)
CW + dPM	50	One-stage CSTR	35	NR	18	2.4	2.2	NR	Gelegenis et al. (2007)
CW + dsDM	50	Two-stage CSTR	35	NR	25	1.5	0.5	60	Bertin et al. (2013)
CW + dM	50	One-stage CSTR	35	NR	42	2.6	1.6	55	Comino et al. (2012)
CW + sDM	85	One-stage CSTR	35	70.0	15.6	3.0	1.6	57	This study
CW + sDM	65	One-stage CSTR	35	59.1	8.3	5.9	2.6	53	This study

dsDM: diluted and screened dairy manure; dPM: diluted poultry manure; DM: Dairy manure; sDM: screened dairy manure; NR: Not reported.