

Supplementary Materials

Table 1. Results of physical-chemical analysis of substrates before anaerobic digestion, for tests under SIR=1:2 g VS substrate/g VS IN.

Parameters	PS	PCS	PAS	PCAS	PSS
Total solids (%)	2.22 ± 0.15	2.30 ± 0.17	4.04 ± 0.38	3.88 ± 0.27	1.97 ± 0.11
Volatile solids (%)	1.43 ± 0.07	1.66 ± 0.05	1.87 ± 0.02	1.99 ± 0.08	1.38 ± 0.02
pH	7.58 ± 0.04	7.55 ± 0.11	7.29 ± 0.08	7.61 ± 0.12	7.37 ± 0.03
Conductivity (mS/cm)	9.5 ± 0.8	9.3 ± 0.9	8.9 ± 0.8	9.1 ± 0.8	9.2 ± 0.8
Alkalinity (mg/L CaCO ₃)	2100 ± 44	2080 ± 112	2260 ± 167	2300 ± 144	2200 ± 125
Volatile Fatty Acids, VFA (mg/L acetic acid)	n.a.*	n.a.*	n.a.*	n.a.*	n.a.*
NH ₄ -N (mg/L)	365.6 ± 2.1	363.2 ± 1.2	332.4 ± 3.3	363.2 ± 3.4	380.8 ± 2.4
Total phosphorous (mg/L)	251.2 ± 20.1	254.8 ± 19.2	248.0 ± 16.5	254.8 ± 22.0	252.0 ± 18.0
Organic Carbon (%)	25.6 ± 2.1	27.8 ± 2.6	27.7 ± 0.8	27.6 ± 0.9	25.7 ± 2.1
Organic Matter (%)	44.1 ± 3.5	48.0 ± 2.8	40.5 ± 2.6	50.3 ± 3.0	40.9 ± 4.1
Chemical Oxygen Demand, COD (mg/L)	24320 ± 1945	23280 ± 1399	n.a.*	n.a.*	23920 ± 1201
Capillary Suction Time, CST (s)	33.5 ± 2.0	19.6 ± 1.1	30.0 ± 1.8	19.8 ± 1.4	28.8 ± 1.1

n.a.*: not available

Table S1. Results of physical-chemical analysis of substrates after anaerobic digestion, for tests under SIR=1:2 g VS substrate/g VS IN.

Parameters	PS	PCS	PAS	PCAS	PSS
Total solids (%)	1.62 ± 0.02	1.65 ± 0.1	3.94 ± 0.02	3.24 ± 0.02	1.91 ± 0.01
Volatile solids (%)	0.91 ± 0.01	0.90 ± 0.01	1.64 ± 0.2	1.24 ± 0.02	1.07 ± 0.01
pH	7.41 ± 0.05	7.40 ± 0.06	7.85 ± 0.08	7.42 ± 0.8	7.44 ± 0.03
Conductivity (mS/cm)	11.0 ± 0.2	10.6 ± 0.1	10.7 ± 0.1	10.2 ± 0.1	10.5 ± 0.1
Alkalinity (mg/L CaCO ₃)	2960 ± 20	2800 ± 20	3300 ± 22	2800 ± 19	3100 ± 21
Volatile Fatty Acids, VFA (mg/L acetic acid)	n.a.*	n.a.*	n.a.*	n.a.*	n.a.*
NH ₄ -N (mg/L)	476.0 ± 4.7	512.00 ± 4.8	808.0 ± 10.3	480.0 ± 9.0	660.0 ± 13.8
Total phosphorous (mg/L)	248.3 ± 14.5	216.2 ± 8.3	250.4 ± 13.6	190.7 ± 10.7	218.0 ± 9.3
Organic Carbon (%)	21.6 ± 1.2	17.3 ± 1.2	14.4 ± 0.9	7.8 ± 1.5	22.6 ± 14.7
Organic Matter (%)	35.2 ± 1.2	29.8 ± 1.8	24.7 ± 1.3	13.5 ± 2.4	34.5 ± 5.0
Chemical Oxygen Demand, COD (mg/L)	19675 ± 1937	10349 ± 672	n.a.*	15994 ± 1391	18006 ± 1071
Capillary Suction Time, CST (s)	28.5 ± 1.1	21 ± 2.0	72.9 ± 5.2	41.7 ± 3.9	50.1 ± 5.3

n.a.*: not available

Table S2. Results of physical-chemical analysis of substrates before anaerobic digestion, for tests under SIR=1:1 g VS substrate/g VS IN.

Parameters	PS	PCS	PAS	PCAS	PSS
Total solids (%)	2.73 ± 0.02	2.94 ± 0.02	4.10 ± 0.4	4.73 ± 0.3	2.36 ± 0.02
Volatile solids (%)	1.75 ± 0.11	1.72 ± 0.21	1.84 ± 0.22	2.43 ± 0.42	1.55 ± 0.30
pH	7.20 ± 0.06	7.21 ± 0.11	7.55 ± 0.8	7.21 ± 0.15	7.08 ± 0.05
Conductivity (mS/cm)	8.8 ± 0.6	9.0 ± 0.8	9.2 ± 0.7	9.0 ± 0.9	8.5 ± 0.4
Alkalinity (mg/L CaCO ₃)	1880 ± 136	2220 ± 177	2260 ± 180	2080 ± 174	1900 ± 176
Volatile Fatty Acids, VFA (mg/L acetic acid)	n.a.*	n.a.*	n.a.*	n.a.*	n.a.*
NH ₄ -N (mg/L)	424 ± 35	452 ± 32	430 ± 33	441 ± 38	345 ± 29
Total phosphorous (mg/L)	269 ± 19	231 ± 19	244 ± 18	200 ± 21	210. ± 18
Organic Carbon (%)	26.7 ± 1.5	28.7 ± 2.3	27.1 ± 1.5	29.9 ± 2.6	25.9 ± 2.3
Organic Matter (%)	46.2 ± 1.6	49.6 ± 2.0	45.0 ± 1.4	51.6 ± 5.0	44.7 ± 1.9
Capillary Suction Time, CST (s)	27 ± 1.68	33.1 ± 1.06	33 ± 1.76	21.3 ± 1.50	29.3±1.37

n.a.*: not available

Table S3. Results of physical-chemical analysis of substrates after anaerobic digestion, for tests under SIR=1:1 g VS substrate/g VS IN.

Parameters	PS	PCS	PAS	PCAS	PSS
Total solids (%)	1.65 ± 0.01	2.17 ± 0.01	3.65 ± 0.02	3.93 ± 0.02	1.36 ± 0.01
Volatile solids (%)	0.75 ± 0.01	0.84 ± 0.01	0.60 ± 0.02	1.13 ± 0.02	0.81 ± 0.01
pH	7.75 ± 0.05	7.92 ± 0.08	7.83 ± 0.06	7.78 ± 0.06	7.62 ± 0.07
Conductivity (mS/cm)	11.3 ± 0.8	12.1 ± 0.7	11.2 ± 0.6	11.5 ± 0.6	10.3 ± 0.7
Alkalinity (mg/L CaCO ₃)	3500 ± 250	3900 ± 280	3500 ± 235	3800 ± 260	2740 ± 180
Volatile Fatty Acids, VFA (mg/L acetic acid)	n.a.*	n.a.*	n.a.*	n.a.*	n.a.*
NH ₄ -N (mg/L)	656.00 ± 44.68	928.00 ± 64.53	880.00 ± 70.40	852.00 ± 68.92	584.00 ± 46.72
Total phosphorous (mg/L)	264 ± 15	240 ± 18	322 ± 25	213 ± 33	206 ± 15
Organic Carbon (%)	19.2 ± 1.2	17.9 ± 1.3	12.8 ± 0.8	10.9 ± 0.7	22.9 ± 1.5
Organic Matter (%)	33.1 ± 2.3	27.5 ± 2.7	22.1 ± 1.4	23.0 ± 1.2	34.0 ± 2.9
Capillary Suction Time, CST (s)	127.8 ± 11.4	302.7 ± 27.1	104.1 ± 9.0	96.3 ± 8.4	26.9 ± 2.4

n.a.*: not available

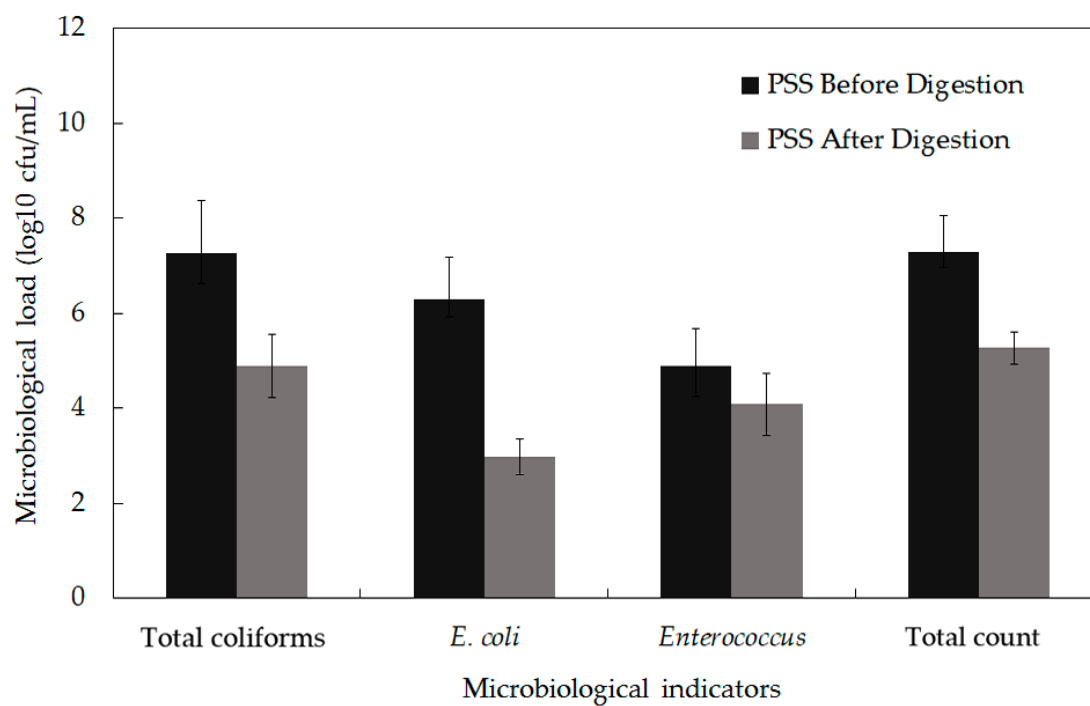


Figure S1. Colony forming units (cfu) of Total coliforms, *Escherichia coli*, *Enterococcus*, Total microbiological count, before and after digestion, for the PSS substrate.