

1 **Appendix A** Changes in physicochemical properties during the composting process in different cow manure
 2 treatments¹⁾.

Treatment	Day	T (°C)	EC	pH	VS	TOM (%)	TN (%)
Control (CC)	1	54.2	2.44 d	9.20 a	74.20 a	38.24 a	0.72 a
	3	61.3	2.48 d	9.10 4b	70.21 b	35.75 b	0.45 b
	5	61.7	3.25 c	9.10 bc	68.54 bc	34.95 b	0.42 b
	7	63.2	3.44 bc	9.13 bc	68.20 bc	34.81 b	0.24 c
	14	55.3	3.47 bc	9.08 cd	66.48 cd	34.60 b	0.23 c
	21	41.3	3.60 ab	9.04 de	65.42 d	33.31 c	0.21 cd
	35	25.3	3.85 a	9.01 e	65.02 d	33.10 c	0.16 d
Oxytetracycline (CO)	1	52.0	2.69 d	9.21 a	75.06 a	39.03 a	2.46 a
	3	58.8	4.08 d	9.07 b	73.22 a	38.08 a	1.97 b
	5	61.3	4.06 c	9.02 bc	68.36 b	35.55 bc	1.18 c
	7	59.7	3.31 b	9.01 bc	67.52 bc	35.11 bc	0.87 d
	14	53.5	3.64 b	9.01 bc	67.367 bc	35.03 bc	0.70 e
	21	37.7	3.6 a	8.96 cd	65.79 c	34.21 c	1.07 c
	35	24.7	2.78 a	8.96 cd	63.07 d	32.79 d	0.87 d
Heavy metals (CH)	1	52.2	2.85 e	9.2 a	71.61 a	38.58 a	0.70 a
	3	60.3	3.09 d	9.04 b	67.2 b	36.51 b	0.44 b
	5	62.0	3.31 c	9.03 bc	68.76 b	35.64 bc	0.36 c
	7	62.3	3.40 c	9.02 bc	66.93 b	35.46 bc	0.37 c
	14	55.3	3.61 b	8.99 bc	66.54 b	34.57 cd	0.23 d
	21	36.7	3.80 b	8.96 c	64.05 c	34.02 d	0.21 d
	35	24.3	4.26 a	8.8 d	63.65 c	33.81 d	0.18 d
OTC with heavy metals (COH)	1	46.2	2.36 d	9.19 a	72.75 a	37.83 a	2.41 a
	3	59.7	2.76 cd	9.03 b	68.77 bc	35.76 bc	1.78 b
	5	60.8	3.16 bc	9.02 b	68.69 bc	35.72 bc	1.62 b
	7	57.2	3.58 ab	8.99 bc	67.14 bc	34.92 bc	1.17 c
	14	52.2	4.02 a	8.94 c	64.20 cd	33.39 cd	1.00 cd
	21	36.3	4.03 a	8.94 c	63.68 cd	33.12 cd	0.71 d
	35	24.3	4.05 a	8.87 d	63.09 d	32.81 d	0.70 d

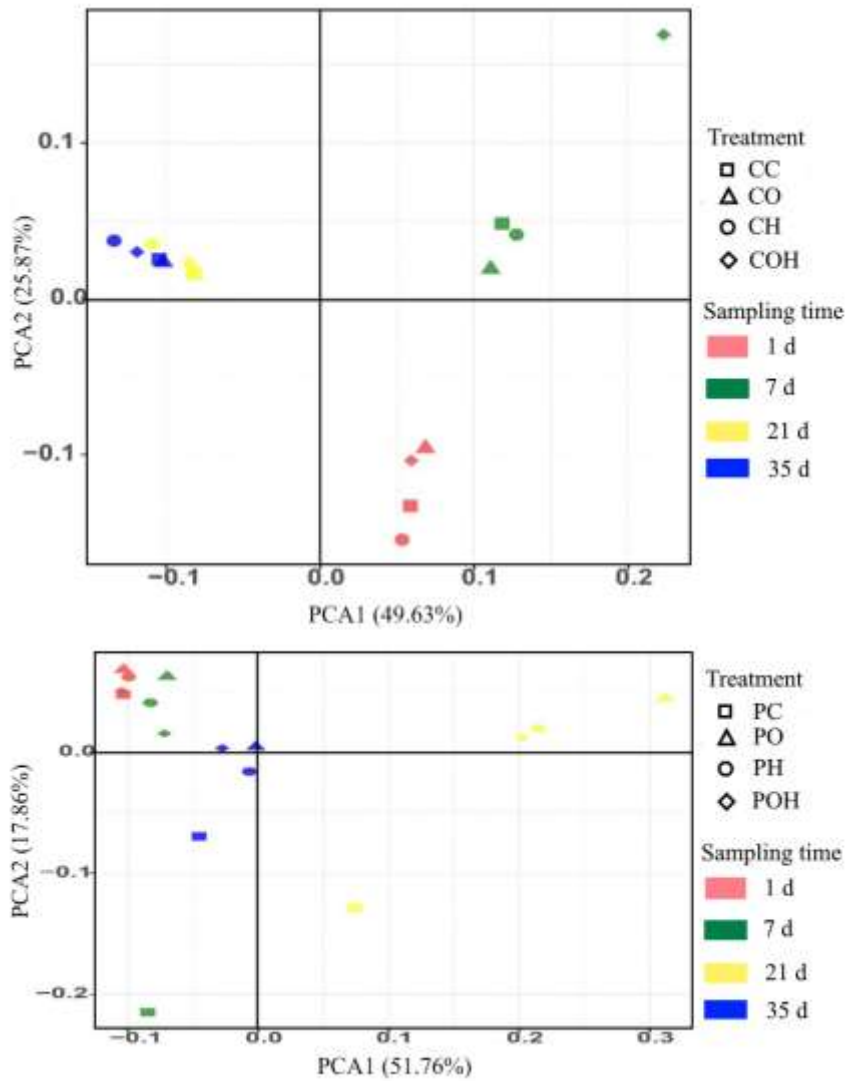
¹⁾Day: Sampling time; T: Temperature; EC: Electrical conductivity; VS: Volatiles substrates; TOM: Total organic matter; TN: Total nitrogen

4 **Appendix B** Changes in physicochemical properties during the composting process in different pig manure
 5 treatments¹⁾.

Treatment	Day	T °C	EC	pH	VS	TOM %	TN %
Control (PC)	1	58.5	0.40 d	8.68 a	91.64 a	47.09 a	3.58 a
	3	57.2	0.43 c	8.15 b	90.08 ab	45.29 ab	3.40 a
	5	61.0	0.74 b	7.91 bc	87.41 bc	44.85 abc	2.02 b
	7	56.5	0.74 b	7.72 cd	89.06 ab	43.01 abc	0.71 c
	14	57.3	0.76 b	7.66 cd	85.18 c	42.66 abc	0.42 cd
	21	44.0	0.76 b	7.57 d	87.20 bc	39.40 bc	0.22 d
	35	26.5	0.79 a	7.50 d	84.41 c	39.11 c	0.19 d
Oxytetracycline (PO)	1	49.3	0.38 e	8.70 ab	90.27 a	46.94 a	1.5133 a
	3	52.0	0.48 d	8.74 a	86.71 cd	45.09 cd	1.41 a
	5	52.2	0.59 c	8.71 a	87.49 bc	45.50 bc	0.80 b
	7	50.2	0.62 bc	8.40 bc	89.23 ab	46.4 ab	0.78 b
	14	55.2	0.67 b	8.14 cd	84.72 de	44.05 de	0.71 bc
	21	41.7	0.75 a	7.86 d	84.81 de	44.10 de	0.52 bc
	35	23.7	0.77 a	8.00 d	82.72 e	43.01 e	0.40 c
Heavy metals (PH)	1	46.8	0.54 c	8.46 b	90.55 a	47.65 a	3.52 a
	3	51.8	0.55 c	8.69 a	86.25 bc	46.84 ab	3.19 b
	5	52.5	0.69 b	8.72 a	87.09 b	46.31 ab	0.93 c
	7	53.0	0.73 ab	8.61 ab	84.6 bcd	45.45 bc	0.38 d
	14	52.0	0.78 ab	8.30 c	82.93 cd	45.34 bc	0.40 d
	21	44.2	0.83 a	7.77 d	82.70 d	44.30 c	0.22 e
	35	23.0	0.84 a	7.69 d	75.77 e	43.90 c	0.21 e
OTC with heavy metals (POH)	1	45.7	0.46 e	8.53 a	87.38 a	45.44 a	1.72 a
	3	45.2	0.57 d	8.61 a	85.74 ab	44.58 ab	0.91 b
	5	53.3	0.70 c	8.75 a	84.61 bc	44.00 bc	0.88 b
	7	52.3	0.75 bc	8.47 a	85.63 ab	44.53 ab	0.75 c
	14	51.3	0.77 abc	8.44 a	84.27 bc	43.82 bc	0.78 c
	21	39.8	0.79 ab	7.57 b	82.41 c	42.85 c	0.49 d
	35	22.8	0.83 a	7.80 b	79.37 d	41.27 d	0.32 e

¹⁾Day: Sampling time; T: Temperature; EC: Electrical conductivity; VS: Volatiles substrates; TOM: Total organic matter; TN: Total nitrogen

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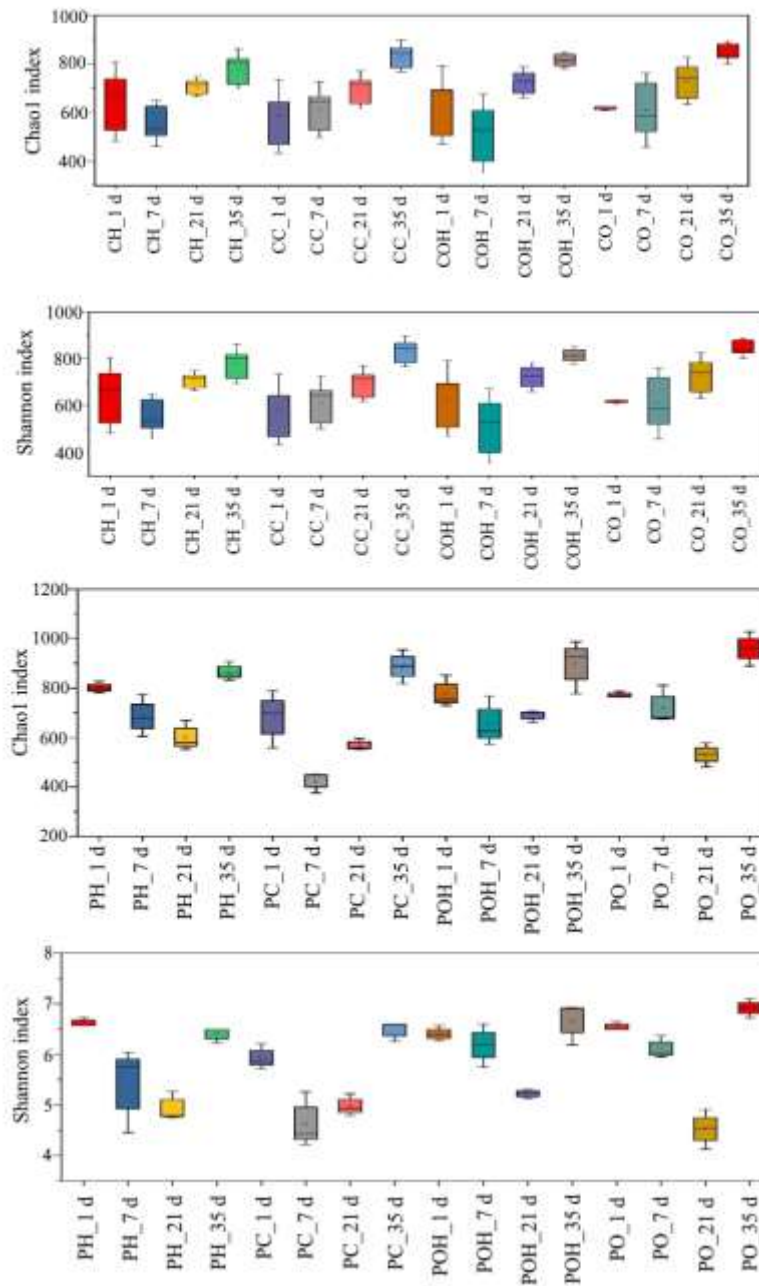


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10 **Appendix C** Principal component analysis (PCA) analysis based on OTU values presents. The microbial
 11 diversity variation between the cow treatment (A) and pig treatment (B) during composting. CC and PC: control
 12 treatments, CO and PO: addition oxytetracycline treatments, CH and PH: addition heavy metal(loid)s treatments,
 13 COH and POH: addition oxytetracycline and heavy metal(loid)s treatments in cow and pig manure composting,
 14 respectively.

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18 **Appendix D.** The violin plot of alpha diversity (Chao1 index and Shannon Index) on 1, 7, 21 and 35 days during
 19 the cow/pig manure composting. CC and PC: control treatments, CO and PO: addition oxytetracycline treatments,
 20 CH and PH: addition heavy metal(loid)s treatments, COH and POH: addition oxytetracycline and heavy
 21 metal(loid)s treatments in cow and pig manure composting, respectively. Error bars represent the standard
 22 deviations (n = 3).

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