

Supplemental Table S1. Characteristics of biochar, compost, and three studied soils.

	Biochar	Compost	Pc soil (SAO)	Eh soil (MAI)	An soil (SAI)
pH	9.9 ¹	8.4 ¹	6.1/5.0 ³	7.5/7.2 ³	6.5/6.2 ³
EC (dS m ⁻¹)	0.77 ¹ /1.36 ²	3.79 ¹	0.45	2.21	0.81
Sand (%)	--	--	11	24	33
Silt (%)	--	--	30	36	33
Clay (%)	--	--	59	39	34
Soil Texture	--	--	Clay	Clay loam	Clay loam
Total C (%)	81.1	23.3	2.03	1.11 (0.81) ⁴	0.94
Total N (g kg ⁻¹)	8.36	22.6	2.71	2.32	1.58
Total P (g kg ⁻¹)	0.55	10.2	1.16	0.98	0.77
Ex. K (cmol(+) kg ⁻¹ soil) ⁵	1.91	--	0.32	0.29	0.21
Ex. Na (cmol(+) kg ⁻¹ soil)	1.26	--	0.31	0.26	0.37
Ex. Ca (cmol(+) kg ⁻¹ soil)	3.62	--	4.85	2.94	2.24
Ex. Mg (cmol(+) kg ⁻¹ soil)	0.40	--	0.64	0.80	0.36
CEC (cmol(+) kg ⁻¹ soil) ⁶	5.20	--	8.58	11.5	14.2
BS (%) ⁷	138	--	71	37	22
M3-P (mg kg ⁻¹) ⁸	96.6	6874	163	236	94.0
M3-K (mg kg ⁻¹)	616	8911	68.4	108	94.1
M3-Ca (g kg ⁻¹)	4.09	14.5	2.03	8.22	2.99
M3-Mg (mg kg ⁻¹)	278	3972	143	344	401
M3-Fe (mg kg ⁻¹)	65.5	396	524	589	1199
M3-Mn (mg kg ⁻¹)	20.9	188	29.0	213	185
M3-Cu (mg kg ⁻¹)	0.02	6.22	9.77	9.95	3.17
M3-Pb (mg kg ⁻¹)	ND ⁹	1.23	10.8	11.7	1.54
M3-Zn (mg kg ⁻¹)	0.35	62.4	20.4	7.98	5.28

¹ The pH and electrical conductivity (EC) of biochar and compost were measured using 1:5 solid: solution ratio after shaking for 30 min in deionized water; ² Biochar EC was measured after shaking biochar-water mixtures (1:5 solid: solution ratio) for 24 h; ³ Soil pH was determined in soil-to-deionized water ratio of 1:1 (g mL⁻¹) and in soil-to-1N KCl ratio of 1:1 (g mL⁻¹); ⁴ carbonate content; ⁵ Ex. = exchangeable; ⁶ CEC = cation exchange capacity; ⁷ BS = base saturation; ⁸ M3 = Mehlich-3 extractable; ⁹ ND = not detected. Data from Tsai and Chang [23]