



Supplement of

Soil organic carbon mineralization is controlled by the application dose of exogenous organic matter

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Supplement 1

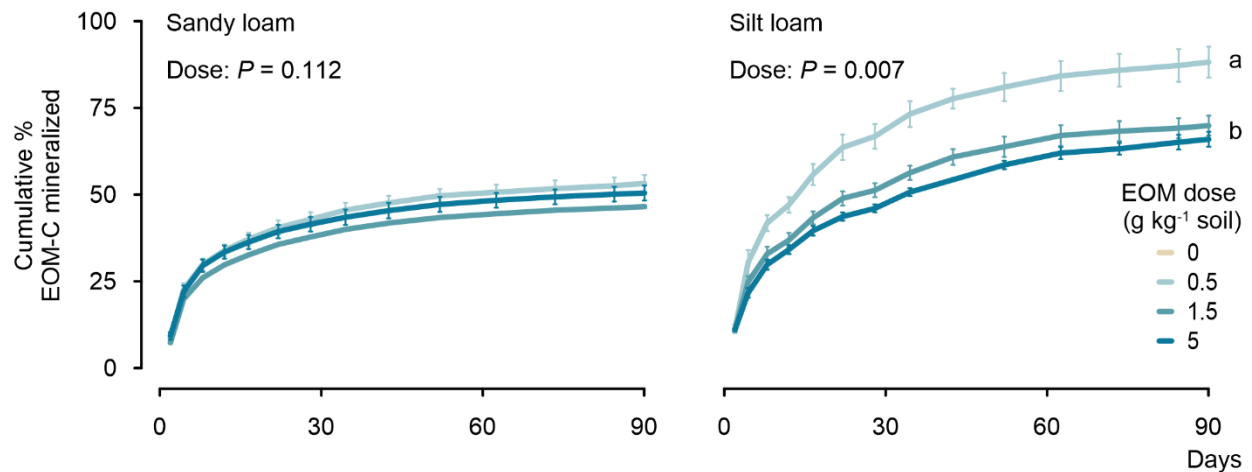


Figure S1. Cumulative % EOM-C mineralized over the 90-day incubation experiment for a sandy loam and silt loam soils as a function of application dose. *P* values indicate the effect of application dose on the percentage of EOM mineralized at the end of the experiment. Error bars show standard errors of means ($n = 3$).

Supplement 2

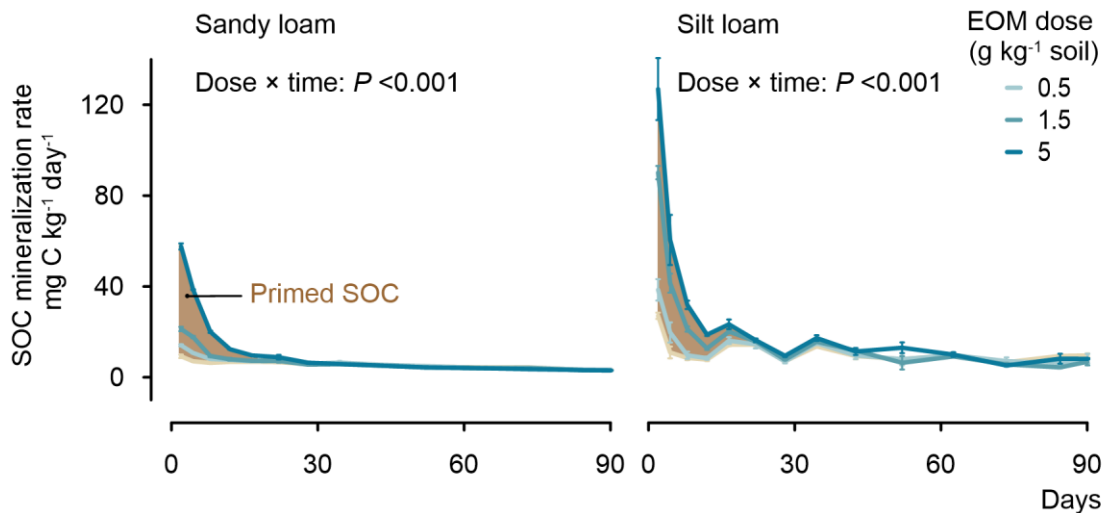


Figure S2. The SOC mineralization rates over the 90-day incubation experiment for a sandy loam and a silt loam soil in response to EOM application dose. Shadow brownish areas depict priming of SOC mineralization caused by EOM application dose. In sandy loam soil, EOM dose induced SOC priming between days 2 and 12 of the incubation (*P* values for 1.5 g kg⁻¹ vs. control = 0.03; 5 g kg⁻¹ vs. control < 0.001; 5 vs. 0.5 g kg⁻¹ < 0.001; and, 5 vs. 1.5 g kg⁻¹ < 0.001), whereas priming remained not significant during day 12 to 90. In silt loam soil, EOM dose induced SOC priming between days 2 and 17 of the incubation (*P* values for 5 g kg⁻¹ vs. control = 0.001; 5 vs. 0.5 g kg⁻¹ = 0.002; and, 5 vs. 1.5 g kg⁻¹ = 0.01), while priming was not significantly different between EOM doses from day 17 to 90. Error bars show standard errors of means ($n = 3$).

Supplement 3

Table S1. Soil carbon balance between SOC present initially and EOM-C input and outputs (mineralization of EOM and SOC) in the two soils used in the incubation experiment. Averages of three replicates with standard errors are shown.

	Sandy loam			Silt loam		
EOM dose (g DM kg soil)	0.5	1.5	5	0.5	1.5	5
EOM-C (mg C kg soil)	202.2	606.6	2022	202.2	606.6	2022
Mineralized EOM-C (mg CO₂-C kg soil)	117.0±5.3	306.8±2.3	1109.4±47.4	193.5±9.9	459.6±18.9	1445.8±47.1
Initial SOC (mg C kg soil)	14400	14400	14400	14900	14900	14900
Mineralized SOC (mg CO₂-C kg soil)	501.4±4.4	513.3±13.8	715.6±9.3	900.3±30.6	946.8±72.3	1436.6±17.0
Priming contribution to mineralized SOC (%)	7.2±0.9	9.3±2.7	35.0±1.3	3.5±8.0	8.3±1.8	39.5±6.3
C balance end (mg C kg soil)	13983.8±6.0	14186.5±13.1	14597.0±42.6	14008.5±82.0	14100.2±34.7	14039.6±113.6
C balance end in controls (mg C kg soil)	13934.6±14.5	13934.6±14.5	13934.6±14.5	14031.4±31.6	14031.4±31.6	14031.4±31.6
C balance end vs. C balance end controls (mg C kg soil)	49.1±6.0	251.9±13.1	662.4±42.6	-22.9±82.0	68.8±34.7	8.2±113.6
C Δ balance per unit EOM added (Δ mg C mg EOM-C⁻¹)	0.24±0.03	0.42±0.02	0.33±0.02	-0.11±0.41	0.11±0.06	0.00±0.06