

Supplementary Materials:

Table S1. Analysis of variance (Two-Way ANOVA) for determined soil properties.

Variable	Factor	F value	P value
Bulk density (Mg m ⁻³)	T	15.03	0.000 ***
	D	1888.56	0.000 ***
	T×D	18.74	0.000 ***
Total SOC (g kg ⁻¹)	T	16.77	0.000 ***
	D	2827.18	0.000 ***
	T×D	18.02	0.000 ***
Non-labile C (g kg ⁻¹)	T	6.10	0.006 **
	D	583.30	0.000 ***
	T×D	3.15	0.054 ns
Very labile (g kg ⁻¹)	T	9.47	0.001 ***
	D	2980.61	0.000 ***
	T×D	10.08	0.001 ***
Labile C (g kg ⁻¹)	T	2.59	0.089 ns
	D	1181.09	0.000 ***
	T×D	0.27	0.844 ns
Less Labile C (g kg ⁻¹)	T	22.80	0.000 ***
	D	338.14	0.000 ***
	T×D	22.15	0.000 ***
Labile pool (g kg ⁻¹)	T	4.37	0.020 *
	D	3891.84	0.000 ***
	T×D	5.66	0.008 **
Labile pool (%)	T	25.46	0.000 ***
	D	3.73	0.071 ns
	T×D	2.31	0.115 ns
Recalcitrant pool (g kg ⁻¹)	T	28.09	0.000 ***
	D	1253.68	0.000 ***
	T×D	21.24	0.000 ***
Recalcitrant pool (%)	T	25.46	0.000 ***
	D	3.73	0.071 ns
	T×D	2.31	0.115 ns
Recalcitrance Index (RI)	T	21.36	0.000 ***
	D	3.64	0.075 ns
	T×D	2.04	0.148 ns
TN (g kg ⁻¹)	T	22.63	0.000 ***
	D	2148.28	0.000 ***
	T×D	15.30	0.000 ***
C/N ratio	T	1.74	0.200 ns
	D	185.29	0.000 ***
	T×D	0.91	0.458 ns
SOC sequestered (Mgha ⁻¹)	T	10.80	0.000 ***
	D	66.49	0.000 ***
	T×D	12.21	0.000 ***
SOC accumulation rate	T	16.77	0.000 ***
	D	91.07	0.000 ***
	T×D	18.02	0.000 ***
Annual SOC sequestration rate	T	10.80	0.000 ***
	D	66.49	0.000 ***

T×D	12.21	0.000 ***
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D: soil depth interval; T: fertilization treatment; D×T: depth × treatment; ***: P < 0.001; **: P < 0.01; *: P < 0.05; ns: not significant. SOC accumulation rate: Total SOC accumulation rate (Mg C ha⁻¹ year⁻¹); Annual SOC sequestration rate (Mg C ha⁻¹ year⁻¹).