

Supplementary Material

Table S1. Stoniness, root weight and elemental composition of macronutrients (Ca, Mg, S), micronutrients (Fe, Cu, Mn, Zn) and heavy metals (Cd, As) for each zone studied (zI and zII) at depths of 0-5 cm and 5-20 cm. Data are presented as mean \pm standard deviation ($n = 3$ for zI and $n = 5$ for zII) corresponding to the sampling carried out in March 2013 at the beginning of the study.

Parameters	0-5 cm depth		5-20 cm depth	
	zI	zII	zI	zII
Stoniness (g 100 g ⁻¹)	45.32 \pm 9.67 a	25.86 \pm 22.03 a	40.66 \pm 13.81 b	8.09 \pm 8.24 a
Root weight (g 100 g ⁻¹)	2.19 \pm 0.63 b	1.24 \pm 0.44 a	2.85 \pm 2.32 a	2.93 \pm 0.82 a
Corg (g kg ⁻¹ soil) ¹	78.76 \pm 5.62 b	34.99 \pm 11.23 a	35.61 \pm 15.54 a	16.20 \pm 8.38 a
C (g 100 g ⁻¹)	10.25 \pm 2.51 a	7.50 \pm 0.90 a	7.37 \pm 1.05 a	6.70 \pm 1.07 a
N (g 100 g ⁻¹)	0.52 \pm 0.10 b	0.22 \pm 0.08 a	0.36 \pm 0.05 b	0.15 \pm 0.09 a
C/N	19.49 \pm 1.76 a	38.11 \pm 9.36 b	20.35 \pm 4.31 a	67.55 \pm 15.64 b
Ca (g 100 g ⁻¹)	4.71 \pm 2.81 a	13.61 \pm 3.19 b	7.11 \pm 5.76 a	15.55 \pm 4.19 a
Mg (g 100 g ⁻¹)	1.07 \pm 0.01 a	2.12 \pm 0.51 b	1.15 \pm 0.05 a	2.16 \pm 0.66 b
S (mg kg ⁻¹)	0.09 \pm 0.04 a	0.14 \pm 0.01 b	0.10 \pm 0.05 a	0.15 \pm 0.02 a
Fe (g kg ⁻¹)	38.60 \pm 7.68 a	30.58 \pm 2.84 a	40.35 \pm 8.90 b	28.52 \pm 4.05 a
Cu (mg kg ⁻¹)	23.09 \pm 2.26 b	13.64 \pm 5.10 a	22.90 \pm 4.16 b	14.81 \pm 4.12 a
Mn (mg kg ⁻¹)	899 \pm 176 b	406 \pm 160 a	887 \pm 166 b	391 \pm 74 a
Zn (mg kg ⁻¹)	331 \pm 52 b	56 \pm 38 a	334 \pm 76 b	48 \pm 23 a
Mo (mg kg ⁻¹)	1.12 \pm 0.13 a	0.79 \pm 0.21 a	1.17 \pm 0.18 b	0.76 \pm 0.16 a
Cd (mg kg ⁻¹)	0.67 \pm 0.14 b	0.20 \pm 0.13 a	0.63 \pm 0.09 b	0.20 \pm 0.12 a
As (mg kg ⁻¹)	21.34 \pm 4.38 a	7.08 \pm 9.08 a	22.87 \pm 4.74 b	7.03 \pm 6.86 a

¹ Corg: organic carbon. Different lower case letters for each parameter in a column indicate significant differences, shown in bold, between the two zones at each depth at $p \leq 0.05$.

Table S2. Soil chemical and physical properties for each zone (zI, zII) at depth of 0-15 cm. Data are means and standard deviations of samples ($n = 9$ and 8 for zI and zII, respectively) taken in May 2014.

Zones	pH	EC 1:5 ¹ (dS m ⁻¹)	Carbonates (%)	SOC ¹ (g kg ⁻¹)	WHC ¹ (%)	Sand (%)	Silt (%)	Clay (%)	Texture
zI	7.96 \pm 0.12 a	0.286 \pm 0.033 b	20.47 \pm 6.80 a	81.48 \pm 13.82 b	83.58 \pm 8.65 b	30.03 \pm 6.24 a	38.31 \pm 2.86 b	31.65 \pm 5.00 a	Clay loam
zII	8.18 \pm 0.16 b	0.190 \pm 0.060 a	36.64 \pm 8.35 b	35.05 \pm 15.42 a	66.19 \pm 4.70 a	37.56 \pm 4.25 b	32.34 \pm 2.54 a	30.10 \pm 3.65 a	Clay loam

¹ EC: electrical conductivity. SOC: soil organic carbon. WHC: water holding capacity. Different lower case letters for each parameter in a column indicate significant differences, shown in bold, between the two zones at $p \leq 0.05$.

Table S3. Spearman's correlation matrix between several soil carbon fractions (soil organic carbon in mineral soil – SOC_{ms}, water soluble organic carbon in forest floor – WSOC_{ff} and mineral soil – WSOC_{ms}, and microbial biomass carbon in mineral soil – MBC_{ms}), gravimetric water content in forest floor – GWC_{ff} and mineral soil – GWC_{ms}, and climate parameters (ambient temperature – Temp_{amb} and WET temperature – Temp_{WET}) separating data by thinning treatment (T) and control (C) plots.

	GWC _{ms_T}												
SOC _{ms_T}	0.424		SOC _{ms_T}										
WSOC _{ms_T}	0.062	0.555	WSOC _{ms_T}										
MBC _{ms_T}	0.655	0.753	0.180	MBC _{ms_T}									
GWC _{ff_T}	0.669	–0.175	–0.448	0.333	GWC _{ff_T}								
WSOC _{ff_T}	–0.559	–0.343	–0.395	0.324	–0.246	WSOC _{ff_T}							
GWC _{ms_C}	0.889	0.383	0.076	0.846	0.616	–0.481	GWC _{ms_C}						
SOC _{ms_C}	0.367	0.850	0.555	0.575	–0.291	–0.328	0.420	SOC _{ms_C}					
WSOC _{ms_C}	–0.267	0.413	0.725	–0.351	–0.698	–0.120	–0.289	0.389	WSOC _{ms_C}				
MBC _{ms_C}	0.328	0.258	0.027	0.262	0.113	–0.027	0.335	0.158	–0.433	MBC _{ms_C}			
GWC _{ff_C}	0.599	–0.263	–0.467	0.266	0.935	–0.187	0.650	–0.283	–0.747	0.148	GWC _{ff_C}		
WSOC _{ff_C}	–0.241	–0.285	–0.501	0.055	0.121	0.648	–0.262	–0.356	–0.259	0.148	0.145	WSOC _{ff_C}	
Temp _{amb}	–0.349	0.028	0.308	–0.393	–0.449	–0.047	–0.196	0.109	0.190	–0.337	–0.402	–0.309	Temp _{amb}
Temp _{WET}	–0.339	0.035	0.190	–0.217	–0.384	0.179	–0.165	0.190	0.037	–0.133	–0.318	–0.144	0.893

Values in bold correspond to significant results at $p \leq 0.05$. Colour scale from red (1) to blue (–1).

Table S4. Spearman's correlation matrix between several soil carbon fractions (soil organic carbon in mineral soil – SOC_{ms}, water soluble organic carbon in forest floor – WSOC_{ff} and mineral soil – WSOC_{ms}, and microbial biomass carbon in mineral soil – MBC_{ms}), gravimetric water content in forest floor – GWC_{ff} and mineral soil – GWC_{ms}, and climate parameters (ambient temperature – Temp_{amb} and WET temperature – Temp_{WET}) organizing data by zone I (zI) and zone II (zII).

	GWC _{ms_zI}													
SOC _{ms_zI}	–0.017	SOC _{ms_zI}												
WSOC _{ms_zI}	–0.493	0.290	WSOC _{ms_zI}											
MBC _{ms_zI}	0.337	–0.499	–0.396	MBC _{ms_zI}										
GWC _{ff_zI}	0.839	–0.135	–0.689	0.393	GWC _{ff_zI}									
WSOC _{ff_zI}	–0.429	–0.134	0.168	0.626	–0.338	WSOC _{ff_zI}								
GWC _{ms_zII}	0.898	–0.032	–0.491	0.215	0.786	–0.455	GWC _{ms_zII}							
SOC _{ms_zII}	0.143	–0.041	0.030	–0.057	–0.008	0.104	0.286	SOC _{ms_zII}						
WSOC _{ms_zII}	–0.249	0.326	0.677	–0.706	–0.431	–0.229	–0.352	0.019	WSOC _{ms_zII}					
MBC _{ms_zII}	0.532	–0.366	–0.481	0.571	0.738	0.636	0.448	0.350	–0.730	MBC _{ms_zII}				
GWC _{ff_zII}	0.747	–0.233	–0.725	0.474	0.932	–0.396	0.822	0.001	–0.490	0.637	GWC _{ff_zII}			
WSOC _{ff_zII}	–0.346	–0.241	–0.175	0.039	–0.094	0.576	–0.323	0.071	–0.248	0.455	–0.128	WSOC _{ff_zII}		
Temp _{amb}	–0.282	0.561	0.439	–0.374	–0.431	–0.065	–0.305	–0.252	0.281	–0.599	–0.416	–0.267	Temp _{amb}	
Temp _{WET}	–0.389	0.369	0.276	–0.175	–0.436	0.152	–0.303	–0.228	–0.016	–0.478	–0.330	0.042	0.870	