

Table 1. $\delta^{13}\text{C}$ values (‰), total C contents ($\text{mg}\cdot\text{g}^{-1}$ soil) and ^{13}C concentrations obtained for soil and plant ($\mu\text{g C g}^{-1}$ soil and $\mu\text{g C g}^{-1}$ DM respectively) in non-planted (NP) and planted (P) mesocosms with ^{12}C (control) and ^{13}C (enriched) spiked soil. The $\delta^{13}\text{C}$ values and C contents were measured by EA-IRMS and the ^{13}C concentrations were calculated from the measured data. Different letters indicate significant differences ($p<0.05$) in bulk (a,b,c) and residual soil (A,B,C) between sampling times. No significant difference ($p>0.05$) was found between planted and non- planted soil mesocosms and between roots and shoots

Time (Day)	Sample Mesocosm	$\delta^{13}\text{C}$ (‰)				Total carbon concentration (mg C g^{-1} of soil)				^{13}C concentration ($\mu\text{g C g}^{-1}$ of plant)				
		Soil		Plant		Soil		Plant		Soil		Plant		
		Bulk	Residual	Shoot	Root	Bulk	Residual	Shoot	Root	Bulk	Residual	Shoot	Root	
0	Control	-	-25.7 ± 0.1	-25.9 ± 0.1	-	-	27.5 ± 1.1	24.9 ± 1.1	-	-	-	-	-	-
	Enriched	-	62.5 ± 2.4	-21.1 ± 0.5	-	-	23.5 ± 0.7	25.4 ± 2.6	-	-	22.9 ± 1.3 ^a	1.3 ± 0.1 ^A	-	-
7	Control	NP	-25.4 ± 0.3	-25.9 ± 0.1	-	-	25.9 ± 1.4	24.4 ± 0.6	-	-	-	-	-	-
	Control	P	-25.4 ± 0.3	-25.8 ± 0.2	-25.8 ± 1.6	-27.6 ± 0.7	25.8 ± 1.9	24.9 ± 1.9	396.0 ± 1.7	359.6 ± 33.8	-	-	-	-
	Enriched	NP	43.5 ± 4.0	4.9 ± 2.6	-	-	24.3 ± 1.1	24.6 ± 1.9	-	-	18.4 ± 1.4 ^b	8.3 ± 0.9 ^B	-	-
	Enriched	P	47.8 ± 3.3	1.5 ± 6.6	-10.3 ± 1.6	-14 ± 3.2	24.0 ± 0.0	24.4 ± 0.7	395.0 ± 3.9	364.2 ± 6.7	19.3 ± 0.9 ^b	7.3 ± 1.7	71.4 ± 9.9	56.6 ± 13.3
14	Control	NP	-25.7 ± 0.1	-25.9 ± 0.1	-	-	25.2 ± 1.4	24.9 ± 1.8	-	-	-	-	-	-
	Control	P	-25.8 ± 0.2	-25.9 ± 0.2	-26.9 ± 0.6	-26.6 ± 0.9	25.2 ± 0.9	24.6 ± 1.0	368.1 ± 26.6	223.7 ± 106.0	-	-	-	-
	Enriched	NP	21.2 ± 3.3	11.2 ± 2	-	-	24.9 ± 2.3	25.5 ± 1.7	-	-	12.9 ± 1.7 ^c	10.4 ± 0.2 ^c	-	-
	Enriched	P	25.0 ± 4.0	13.7 ± 2.5	16.8 ± 13.3	-1.3 ± 6.4	23.1 ± 0.5	25.3 ± 1.7	389.5 ± 4.5	333.8 ± 27.6	12.9 ± 1.0	11.0 ± 0.8	191.2 ± 60.4 ^A	92.5 ± 23.2 ^A
21	Control	NP	-25.8 ± 0.2	-25.9 ± 0.2	-	-	24.6 ± 0.4	25.2 ± 0.8	-	-	-	-	-	-
	Control	P	-25.6 ± 0.4	-25.8 ± 0.1	-27.2 ± 0.3	-26.5 ± 0.1	24.4 ± 0.4	25.3 ± 2.2	358.9 ± 5.1	308.8 ± 50.2	-	-	-	-
	Enriched	NP	14.9 ± 5.8	11.0 ± 2.7	-	-	24.6 ± 2.3	25.2 ± 2.6	-	-	10.9 ± 1.0 ^c	10.2 ± 0.7 ^c	-	-
	Enriched	P	17.5 ± 0.7	12.5 ± 0.4	7.2 ± 12.1	9.9 ± 11.9	26.7 ± 2.7	24.2 ± 1.2	396.7 ± 2.7	322.1 ± 16.9	12.6 ± 1.3	10.2 ± 0.5	150.8 ± 56.2 ^A	130.4 ± 41.8 ^A
Enriched	NP	14.9 ± 5.8	11.0 ± 2.7	-	-	24.6 ± 2.3	25.2 ± 2.6	-	-	10.9 ± 1.0 ^c	10.2 ± 0.7 ^c	-	-	
	P	17.5 ± 0.7	12.5 ± 0.4	7.2 ± 12.1	9.9 ± 11.9	26.7 ± 2.7	24.2 ± 1.2	396.7 ± 2.7	322.1 ± 16.9	12.6 ± 1.3	10.2 ± 0.5	150.8 ± 56.2 ^A	130.4 ± 41.8 ^A	

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567 **Table 2.** $^{12}\text{C}/^{12}\text{C}^{14}\text{N}$, $^{32}\text{S}/^{12}\text{C}^{14}\text{N}$ and $^{56}\text{Fe}^{16}\text{O}/^{12}\text{C}$ ratios in the hotspots, root tissues, soil, and resin identified in Figure 4. Mean ratios (\pm SD) were
 568 extracted from Regions Of Interest (ROIs) using OpenMIMS plugin in the freeware package Image J. * ($p<0.10$), ** ($p<0.05$), *** ($p<0.001$), indicate
 569 significant differences between ROI classes according to Wilcoxon rank-sum test.

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ROI class	$^{12}\text{C}/^{12}\text{C}^{14}\text{N}$	$^{32}\text{S}/^{12}\text{C}^{14}\text{N}$	$^{56}\text{Fe}^{16}\text{O}/^{12}\text{C}$
Hotspot	1.02 ± 0.25	0.11 ± 0.03	0.001 ± 0.00
Root	** 0.33 ± 0.08 } ***	0.02 ± 0.00 } **	* 0.002 ± 0.00 } **
Soil	1.49 ± 0.14 } ***	0.23 ± 0.05 } ***	2.18 ± 1.70 } **
Resin	12.88 ± 1.79	0.04 ± 0.00	0.000 ± 0.00