

## Supplementary Material

**Table S1:** Basic soil characteristics of the site. Presented values are means of three soil profiles. Std. errors are presented in brackets (data adopted from Leinemann et al. [43]).

Horizon	Depth [cm]	Total N [%]	Organic C [%]	pH (CaCl <sub>2</sub> )	Clay [%]	Silt [%]	Sand [%]
AE	0-10	0.06 (0.01)	1.51 (0.10)	3.19 (0.13)	2.13 (0.31)	31.03 (1.63)	66.84 (1.82)
Bsw	10-23	0.04 (0.01)	0.96 (0.15)	3.52 (0.21)	2.78 (0.60)	32.71 (1.09)	64.51 (1.51)
Bw	23-67	0.03 (0.00)	0.46 (0.11)	3.93 (0.03)	2.79 (0.22)	35.13 (0.70)	62.08 (0.92)
C	67-99	0.01 (0.00)	0.11 (0.03)	3.85 (0.14)	3.90 (0.99)	33.28 (5.58)	62.82 (6.54)

**Table S2:** Mean enzyme activity change (acid phosphatase,  $\beta$ -glucosidase and chitinase) in percentage in non-hotspots over a 14-day incubation period and after water (control), substrate/nutrient addition. Presented values are means of three subsamples. Different letters within the same enzymes indicate significant ( $p < 0.05$ ) differences between depths. Std. errors are presented in brackets.

	Control	DOC	Glucose	Ammonium nitrate	Glucose + Ammonium nitrate [%]	Artificial root exudate	Dipotassium Phosphate	Glucose + Dipotassium Phosphate
<i>Upper Subsoil</i>								
pho	70.4 <sup>a</sup> (38.2)	237.7 <sup>a</sup> (105.0)	70.7 <sup>a</sup> (24.4)	179.1 <sup>a</sup> (57.3)	985.8 <sup>a</sup> (152.9)	87.3 <sup>a</sup> (8.5)	43.7 <sup>a</sup> (19.5)	76.9 <sup>a</sup> (26.4)
$\beta$ glu	104.6 <sup>a</sup> (47.1)	88.25 <sup>a</sup> (28.0)	147.4 <sup>a</sup> (32.2)	264.5 <sup>a</sup> (22.0)	405.6 <sup>a</sup> (79.6)	131.9 <sup>a</sup> (64.8)	73.2 <sup>a</sup> (11.0)	62.8 <sup>a</sup> (22.8)
chi	68.4 <sup>a</sup> (41.4)	101.0 <sup>a</sup> (24.7)	104.8 <sup>a</sup> (40.0)	161.1 <sup>a</sup> (11.0)	188.4 <sup>a</sup> (54.6)	158.0 <sup>a</sup> (54.3)	72.1 <sup>a</sup> (9.0)	75.8 <sup>a</sup> (14.5)
<i>Lower Subsoil</i>								
pho	143.4 <sup>a</sup> (37.1)	203.1 <sup>a</sup> (90.3)	174.1 <sup>a</sup> (90.3)	358.1 <sup>a</sup> (137.9)	612.5 <sup>a</sup> (287.2)	267.5 <sup>a</sup> (61.8)	139.3 <sup>b</sup> (13.5)	200.3 <sup>b</sup> (34.4)
$\beta$ glu	157.9 <sup>a</sup> (21.1)	223.7 <sup>b</sup> (104.5)	261.7 <sup>a</sup> (104.5)	407.5 <sup>a</sup> (51.2)	490.2 <sup>a</sup> (120.1)	403.3 <sup>a</sup> (116.0)	202.0 <sup>b</sup> (39.5)	490.2 <sup>b</sup> (120.1)
chi	202.0 <sup>a</sup> (37.4)	158.5 <sup>a</sup> (69.3)	185.0 <sup>a</sup> (69.3)	216.9 <sup>a</sup> (31.4)	307.7 <sup>a</sup> (59.6)	364.2 <sup>b</sup> (50.0)	183.7 <sup>a</sup> (35.3)	155.0 <sup>a</sup> (35.5)

**Table S3:** Mean enzyme activity change (acid phosphatase,  $\beta$ -glucosidase and chitinase) in percentage in hotspots over a 14-day incubation period and after water (control), substrate/nutrient addition. Presented values are means of three subsamples. Different letters within the same enzymes indicate significant ( $p < 0.05$ ) differences between depths. Std. errors are presented in brackets.

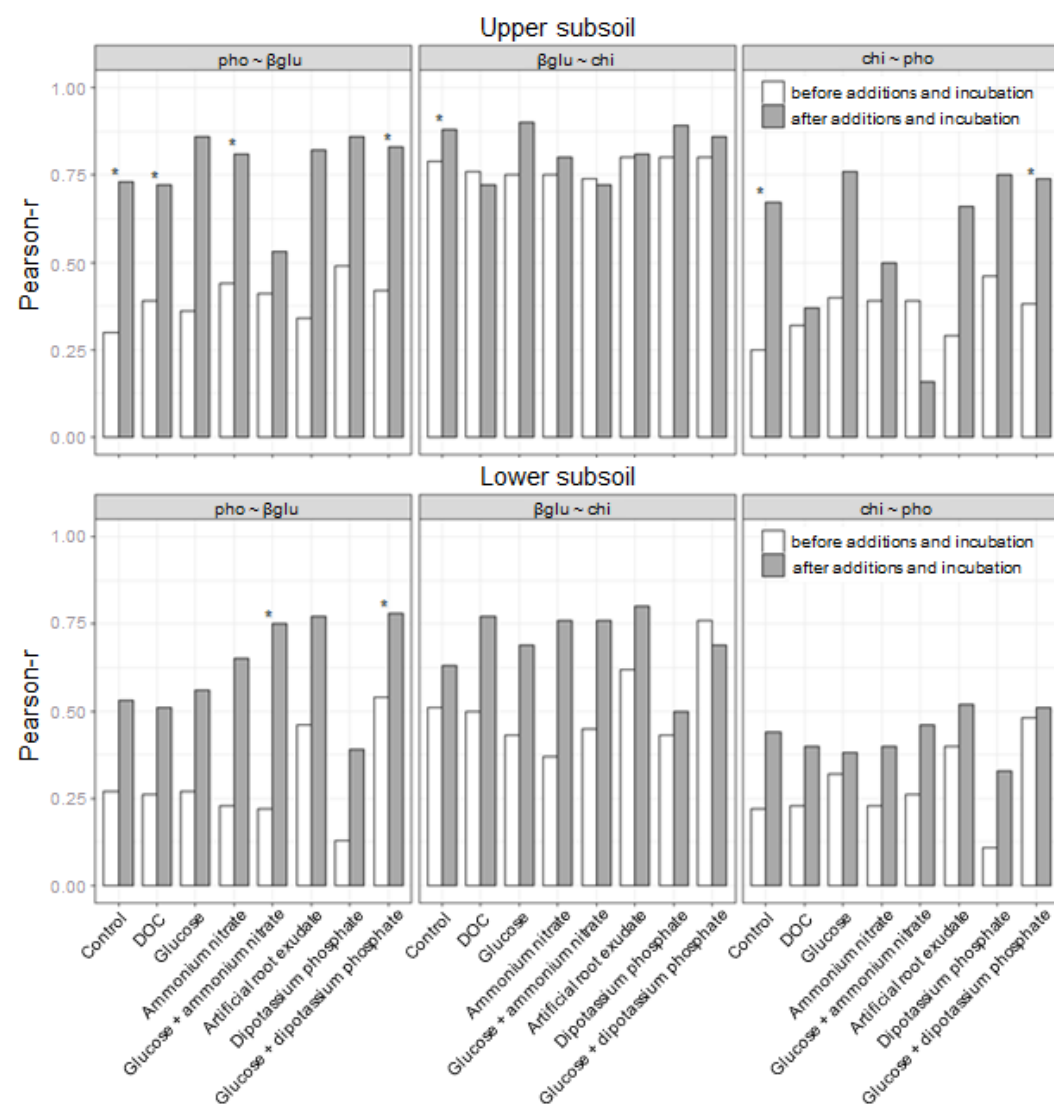
Control			DOC		Glucose		Ammonium nitrate		Glucose + Ammonium nitrate		Artificial root exudate		Dipotassium Phosphate		Glucose + Dipotassium Phosphate	
[%]																
<i>Upper Subsoil</i>																
pho	-10.5 <sup>a</sup>	(24.8)	84.2 <sup>a</sup>	(50.5)	9.8 <sup>a</sup>	(17.4)	63.0 <sup>a</sup>	(25.5)	358.8 <sup>a</sup>	(28.7)	18.4 <sup>a</sup>	(10.2)	-0.8 <sup>a</sup>	(14.0)	1.7 <sup>a</sup>	(5.0)
βglu	15.3 <sup>a</sup>	(4.3)	32.8 <sup>a</sup>	(16.7)	39.6 <sup>a</sup>	(32.9)	69.6 <sup>a</sup>	(10.8)	153.1 <sup>a</sup>	(54.2)	39.1 <sup>a</sup>	(27.4)	27.2 <sup>a</sup>	(11.0)	10.6 <sup>a</sup>	(6.0)
chi	4.2 <sup>a</sup>	(5.7)	62.2 <sup>a</sup>	(20.5)	46.2 <sup>a</sup>	(31.4)	54.7 <sup>a</sup>	(13.8)	103.4 <sup>a</sup>	(39.4)	63.9 <sup>a</sup>	(21.3)	34.4 <sup>a</sup>	(9.8)	29.7 <sup>a</sup>	(1.4)
<i>Lower Subsoil</i>																
pho	39.6 <sup>a</sup>	(18.2)	83.3 <sup>a</sup>	(76.2)	73.8 <sup>a</sup>	(51.8)	127.2 <sup>a</sup>	(43.9)	435.3 <sup>a</sup>	(114.7)	99.2 <sup>a</sup>	(51.7)	94.5 <sup>b</sup>	(10.0)	83.1 <sup>a</sup>	(29.9)
βglu	60.0 <sup>a</sup>	(47.1)	102.3 <sup>a</sup>	(29.2)	181.9 <sup>a</sup>	(101.5)	228.1 <sup>a</sup>	(102.4)	413.5 <sup>a</sup>	(112.6)	182.5 <sup>a</sup>	(63.2)	139.1 <sup>b</sup>	(33.7)	120.1 <sup>b</sup>	(17.4)
chi	87.7 <sup>a</sup>	(41.4)	83.3 <sup>a</sup>	(39.2)	104.5 <sup>a</sup>	(74.1)	83.9 <sup>a</sup>	(21.2)	237.8 <sup>a</sup>	(33.8)	210.9 <sup>a</sup>	(80.9)	168.8 <sup>b</sup>	(39.9)	102.3 <sup>a</sup>	(26.3)



**Figure S1:** Sampling of an upper subsoil sample.



**Figure S2:** Sampling of a lower subsoil sample.



**Figure S3:** Pearson-r indicating pattern similarity in dependence of depth, treatment and enzyme combination. Bars show comparison of Pearson-r of untreated and treated subsamples. Presented values are means of three subsamples. Stars show significant differences of mean Pearson-r before and after addition ( $p < 0.05$ ).