Supplementary Table 1.

Results of factor analysis: grouping of fatty acids derived from factor loadings and PLFA literature. G+1 and G+2 are gram positive group one and two, respectively; G-1 and G-2 are gram-negative group one and two, respectively; VAM - vesicular arbuscular mycorrhiza fungi, Ac – actinomycetes.

Fatty acids	Factor 1	Factor 2	Factor 3	Factor 4	Microbial groups
i15:0	**-0.78**	0.20	-0.21	-0.51	G+1
a15:0	**-0.65**	0.07	-0.17	-0.63	
i16:0	**-0.94**	-0.20	0.09	-0.16	
i17:0	**-0.98**	0.02	0.10	0.02	
a17:0	**-0.97**	0.04	0.17	0.01	
10Me16:0	**-0.95**	0.06	0.02	0.14	Ac
10Me18:0	**-0.97**	-0.08	0.06	0.09	
18:1w7c	**0.92**	-0.11	0.14	-0.03	G-1
16:1w7c	0.33	**0.78**	-0.01	-0.19	G-2
18:1w9c	-0.33	**0.85**	0.18	0.24	
16:1w5c	0.11	**0.89**	0.06	-0.21	VAM
18:2w6,9	0.22	**-0.54**	-0.23	0.42	Fungi
i14:0	0.00	-0.04	**-0.93**	0.06	G+2
a14:0	0.06	-0.08	**-0.88**	0.03	

Supplementary Table 2.

Absolute abundance (in mg per kg dry soil) of the fatty acids of the microbial groups, classified by factor analysis (factor loadings see Supplementary Table 1). Data present means and standard errors.

Microbial groups	Microbial groups content, mg kg^{-1} soil		
	Day 3	Day 10	Day 50
G-1	5.1±0.6	9.1±1.7	20.6*±4.6
G-2	5.3±0.6	9.0±2.3	7.8±1
G+1	7.1±1.3	10.9±2.4	5.8±0.9
G+2	0.6±0.2	1.4±0.5	n.d.
Ac	3.7±0.5	4.3±0.7	1.2*±0.2
VAM	1.5±0.2	2.6±0.9	2.4±0.3
Fungi	1.5±0.2	0.9±0.3	1.5±0.2

n.a. not available.

* Significantly different contents of microbial PLFAs, $p<0.05$.

Supplementary Table 3.

Content of PLFAs and isotopic signatures for the 3 sampling points. Data present mean values.

	3 days		10 days		50 days	
PLFAs	**PLFA, μg g^{-1} soil**	**$\delta^{13}C/^{12}C$, ‰**	**PLFA, μg g^{-1} soil**	**$\delta^{13}C/^{12}C$, ‰**	**PLFA, μg g^{-1} soil**	**$\delta^{13}C/^{12}C$, ‰**
i14:0	0.25	1.60	0.90	-20.59	n.a.	n.a.
a14:0	0.01	24.02	0.68	26.55	n.a.	n.a.
14:1w5c	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
14:0	0.47	-10.29	1.23	-9.45	0.64	-15.76
i15:0	2.50	1.71	4.99	-11.78	2.89	-10.11
a15:0	1.71	3.38	3.23	-7.72	2.13	-9.27
15:0	0.39	-9.00	0.25	-13.56	n.a.	n.a.
i16:0	1.07	43.29	1.30	19.87	0.86	11.33
a16:0	n.a.	n.a.	0.03	-30.76	n.a.	n.a.
16:1w7c	2.39	2.08	4.07	-11.80	3.80	-6.78
16:1w5c	1.51	-27.48	2.60	-29.72	2.52	-17.14
16:0	5.90	12.86	9.68	0.11	6.38	-5.71
10Me16:0	1.84	-33.56	2.51	-35.68	0.68	-21.61
i17:0	0.86	-5.22	0.84	-17.84	0.15	-13.98
a17:0	0.68	5.02	0.57	-12.28	0.13	-9.29
cy17:0	0.66	-30.16	1.47	-29.17	1.45	-16.61
17:0	0.47	32.65	0.20	3.29	n.a.	n.a.
18:2w6,9	0.00	-9.13	0.94	-20.19	1.42	-10.71
18:1w9c	4.38	42.70	4.89	13.39	3.74	5.63
18:1w7c	5.72	19.25	9.05	-1.54	n.a.	n.a.
18:0	1.30	3.82	1.33	-14.72	0.44	-3.88
10Me18:0	1.48	29.00	1.74	33.62	0.31	41.38
cy19:0	2.23	-29.72	6.33	-32.62	4.92	-29.43
20:4w6c	1.51	-40.59	0.09	-42.11	n.a.	n.a.
20:1w9c	1.31	-35.04	0.18	-16.14	n.a.	n.a.
20:0	1.01	-30.50	n.a.	n.a.	n.a.	n.a.

n.a. Data not available.