



Supplement

Plants specifically modulate the microbiome of root-lesion nematodes in the rhizosphere, affecting their fitness

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Table S1. Percentange dissimilarity of bacterial or fungal communities attached to the cuticle of *Pratylenchus penetrans* that were incubated in soil suspensions from different rhizospheres or bulk soil, or non-attached microbial communities in the respective soil suspension.

		Dissimilarity (%) ^a									
Sources	of Soil Suspensions of the Pairwise Comparisons of		Bacteria	Fungi							
	Bacterial or Fungal DGGE Fingerprints	Soil	Attached to Cuti- cle	Soil	Attached to Cuticle						
(Bulk soil vs. maize rhizosphere	37	23	58	62						
ıt (1	Bulk soil vs. tomato rhizosphere	64	35	35	88						
erimen	Bulk soil vs. soybean rhizosphere	30	40	49	65						
	Maize vs. tomato rhizosphere	65	43	31	87						
dx	Maize vs. soybean rhizosphere	14	51	61	43						
щ	Soybean vs. tomato rhizosphere	51	68	30	57						
â	Bulk soil vs. maize rhizosphere	32	34	33	14						
ıt (2	Bulk soil vs. oat rhizosphere	29	31	44	28						
nen	Bulk soil vs. Ethiopian mustard rhizosphere	31	12	18	10						
irin	Maize vs. oat rhizosphere	12	29	28	29						
xbe	Maize vs. Ethiopian mustard rhizosphere	26	36	27	17						
Щ	Oat vs. Ethiopian mustard rhizosphere	25	22	35	3						

^a d-value: average of pairwise Pearson correlation coefficients among DGGE fingerprints within each group minus average of pairwise Pearson correlation coefficients among DGGE fingerprints of different groups.

				Specificity of band										
Band		Closest Genbank match	GenBank accession no. (% identity)	Bulk soil	Maize rhizo- sphere	Soybean rhizo-sphere	Tomato rhizo- sphere	In-oculum						
	1	Malassezia restricta	CP030254.1 (99%)		Х	Х	Х							
	2	Penicillium corylophilum	MF475910.1 (99%)		Х	Х								
	3	Penicillium digitatum	MH864871.1 (99%)	Х										
	4	Acremonium psychrophilum	MH862386.1 (96%)	Х										
	5	Simplicillium sympodiophorum	KY434158.1 (99%)	Х										
	6	Malassezia globosa	KM269155.1 (99%)	Х	Х									
ΞC	7	Myrothecium verrucaria	FJ235085.1 (99%)		Х									
Ğ		Penicillium allii	AF218787.1 (99%)											
ΠD	8	Penicillium gladioli	MH856256.1 (99%)				Х							
nga		Penicillium hordei	MH859204.1 (100%)											
Fu	9	Scoliciosporum umbrinum	KX133008.1 (99%)	Х										
	10	Aspergillus tonophilus	MH858639.1 (100%)		Х									
	11	Cladosporium tenuissimum	MG569541.1 (99%)	Х	Х	Х	Х	Х						
	10	Cladosporium cladosporioides	MH790419.1(100%)			v	v							
	12	Cladosporium allicinum	KY420929.1 (99%)			λ	Λ							
	13	Sporidiobolus pararoseus	KY105483.1 (100%)				Х							
	14	Cutaneotrichosporon curvatus	KY102995.1 (100%)				Х							
	1	Paraburkholderia dipogonis	NR_145902.1 (100%)			Х								
	2	Cutibacterium acnes	NR_040847.1 (99%)	Х	Х	Х	Х	Х						
	3	Pseudomonas guariconensis	NR_135703.1 (99%)		Х		Х							
	4	Pseudomonas putida	NR_114794.1 (99%)			Х	Х							
	5	Pantoea stewartii	NR_104928.1 (95%)		Х	Х								
	6	Bradyrhizobium embrapense	NR_145861.1 (95%)	Х	Х	Х	Х							
Ξ	7	Streptococcus thermophilus	NR_042778.1 (99%)	Х										
ğ	8	Pseudomonas synxantha	NR_113583.1 (100%)	Х	Х	Х	Х							
1D	9	Streptococcus rubneri	NR_109720.1 (99%)				Х							
iria	10	Enterobacter xiangfangensis	NR_126208.1 (99%)	Х			Х							
icte	11	Granulicatella adiacens Acinetobacter	NR_025862.1 (99%)	v			v							
Ba	11	lwoffii	NR_113346.1 (99%)	Λ			Λ							
	12	Streptococcus himalayensis	NR_156072.1 (99%)	Х	Х	Х	Х							
	13	Moraxella nonliquefaciens	NR_104938.1 (99%)				Х							
	14	Haemophilus sputorum	NR_118143.1 (99%)	v	v	v								
	14	Veillonella tobetsuensis	NR_113570.1 (93%)	А	λ	А								
	15	Streptococcus mitis	NR_116207.1 (99%)	v	v	v								
	13	Streptococcus salivarius	NR_042776.1 (100%)	Λ	Λ	Λ								

Table S2. Identification and frequency of fungal and bacterial species associated with *Pratylenchus penetrans* after baiting in suspensions of bulk soil or different rhizosphere soils.

Fungal		Bulk	Soil		Soy	bean r	hizospl	here	N	laize rh	izosph	ere	ToT	Fungal			
marker	A	В	С	D	A	В	С	D	A	В	Ċ	D	A	В	C	D	marker
marker	A	B	C	D	A	B	C	D			C		A	B	C	D	Pungai marker
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Figure S1. DGGE profiles of fungal ITS fragments amplified from DNA of bulk soil and rhizospheres of maize, soybean, and tomato plants grown in the same soil. Letters A, B, C, and D represent biological replicates of each treatment.

Bacter	ial	Bu	lk Soil		Soy	bean	rhizosp	here		Maize	rhizosph	nere	To	B <u>acter</u> ia			
marker	r A	В	С	D	A	В	С	D	А	В	C	D	A	В	C	D	marker
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Figure S2. DGGE profiles of bacterial 16S rRNA fragment fragments amplified from DNA of bulk soil and rhizoScheme 3. Box-PCR fingerprint of bacterial strains isolated from *Pratylenchus penetrans* cuticle after incubation in bulk soil or the rhizosphere soils of maize, tomato, or soybean.



Figure S3. Box-PCR fingerprint of bacterial strains isolated from *Pratylenchus penetrans* cuticle after incubation in bulk Scheme 4. Effect of pre-incubation of *Pratylenchus penetrans* in root exudates of soybean, maize, or tomato on the bacterial community attached to the cuticle. Contr.: control DNA from surface disinfected nematodes that served as inoculum.



Figure S4. Effect of pre-incubation of *Pratylenchus penetrans* in root exudates of soybean, maize, or tomato on the bacterial community attached to the cuticle. Contr.: control DNA from surface disinfected nematodes that served as inoculum.

Fungal	Ste	rile ta	o wate	er	Soy	beane	exuda	ates	Maize exudates				Tomato exudates				NAA solution				<u>Cont.</u> Fungal	
marker	A	В	С	D	А	В	С	D	A	В	С	D	A	В	С	D	А	В	С	D		marker
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1		12	1.1	100	103	13				123				1.1					163	100		1
1		224	2.4	100	1.4	1.4	100	1.64		100	100			100	1.60	1.60	1.60	1.60	164	1.00	1 68	
-							100	1.63						1.0		1 6 3			I Kool	100	1 855	1.600
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Figure S5. Effect of pre-incubation of *Pratylenchus penetrans* in root exudates of soybean, maize, or tomato on the fungal community attached to the cuticle. NAA: 1 μ M α -naphthalene acetic acid (auxin). Contr.: control DNA from surface disinfected nematodes that served as inoculum.