

Figure S1. The map showing the location of the treatments and the distance between the fields. SMS – spent mushroom substrate; CM – chicken manure; CS – control soil. https://umap.openstreetmap.fr/pl/map/cs-sms-cm_550327. The map was created with uMap <https://umap.openstreetmap.fr/>

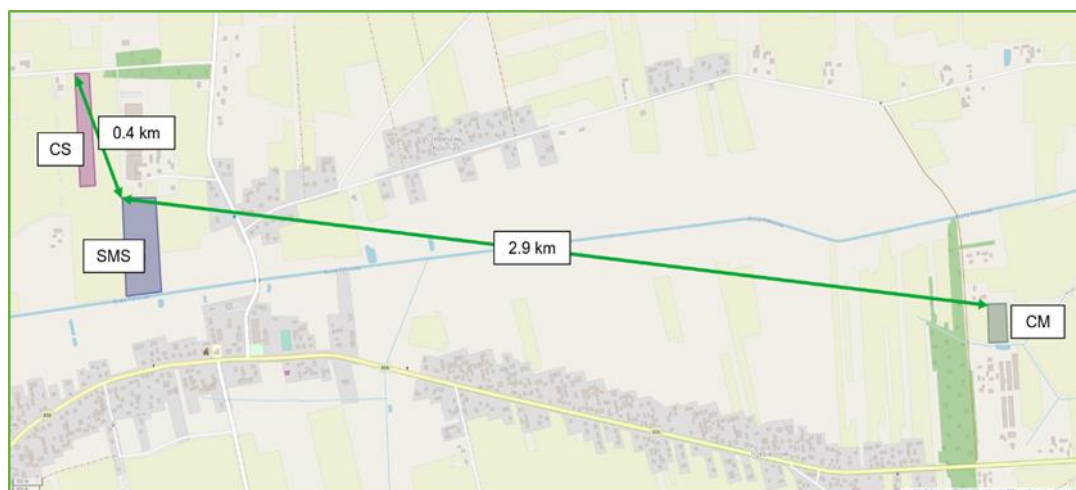


Figure S2. The amplification plot (A) and the melting curve (B) of the standard and negative template control obtained from the quantification of the fungal abundance. The blue circle underlines the negative template control (NTC).

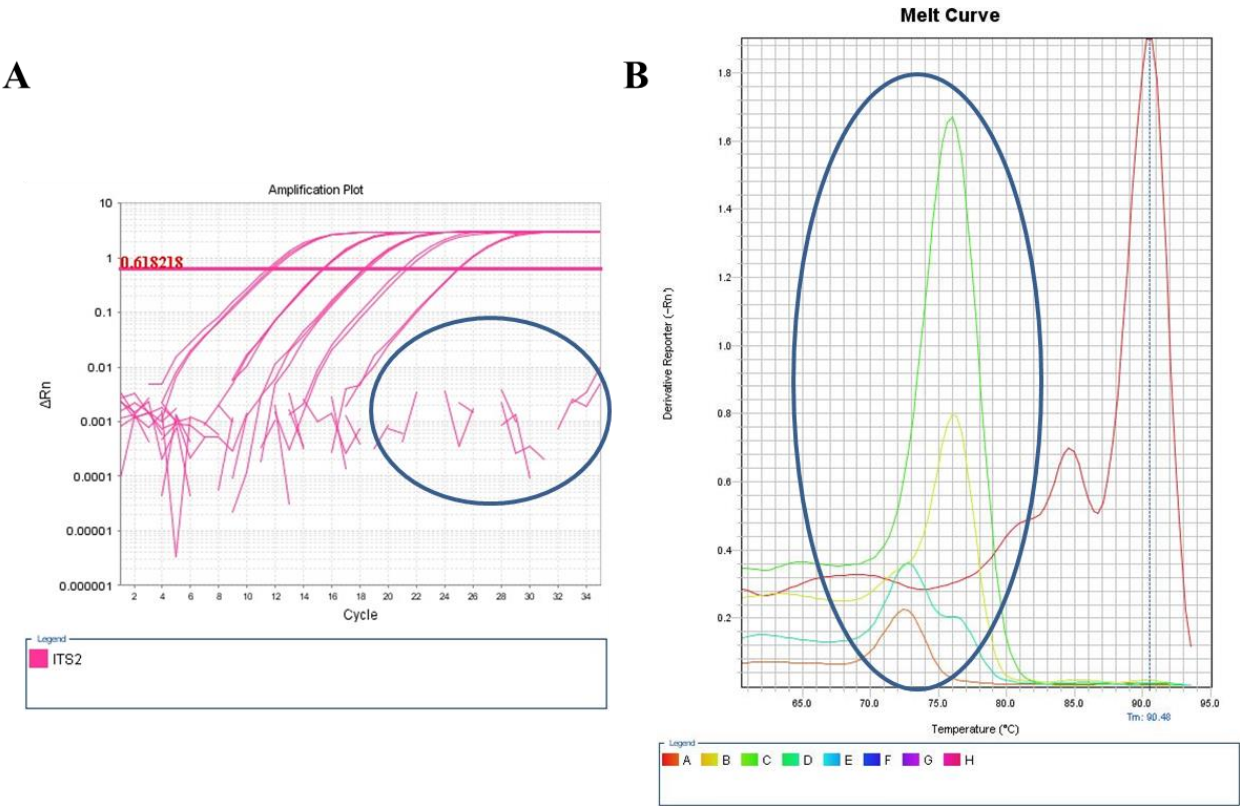


Figure S3. The example of a gel picture showing the PCR products, ranging from ~500 bp to ~700 bp, that were used for the nested PCR in order to obtain amplicons for the DGGE analysis. SMS, spent mushroom substrate; CM, chicken manure; CS, control soil; M, DNA marker used as a weight standard in the range of 100–10,000 bp.

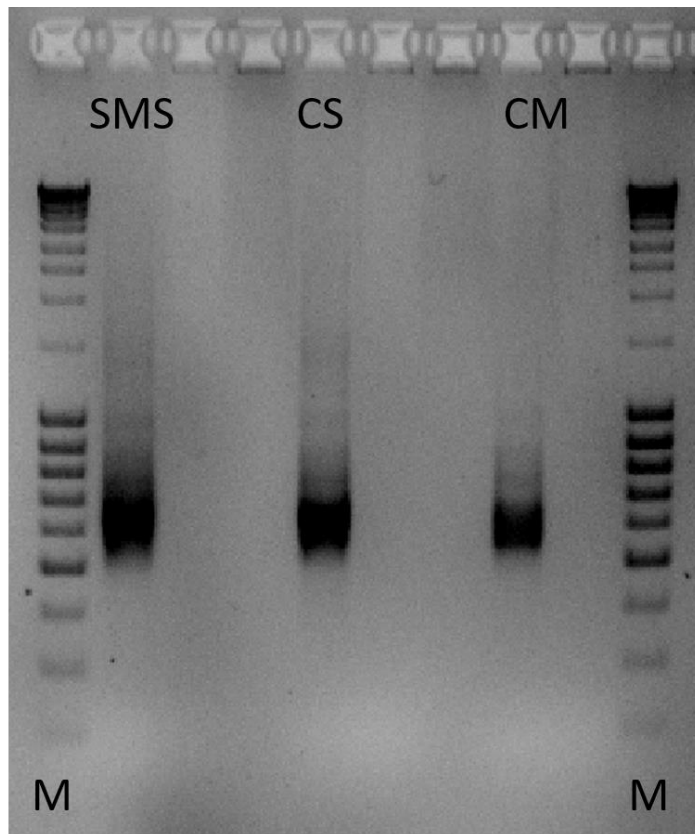


Figure S4. The OTUs number of soil fungal species after the long-term organic treatment. SMS, spent mushroom substrate; CM, chicken manure; CS, control soil. The OTUs with a greater relative abundance than 0.5% are presented. The fungal communities were examined through the next-generation sequencing (NGS) of the ITS1 region using Illumina MiSeq technology.

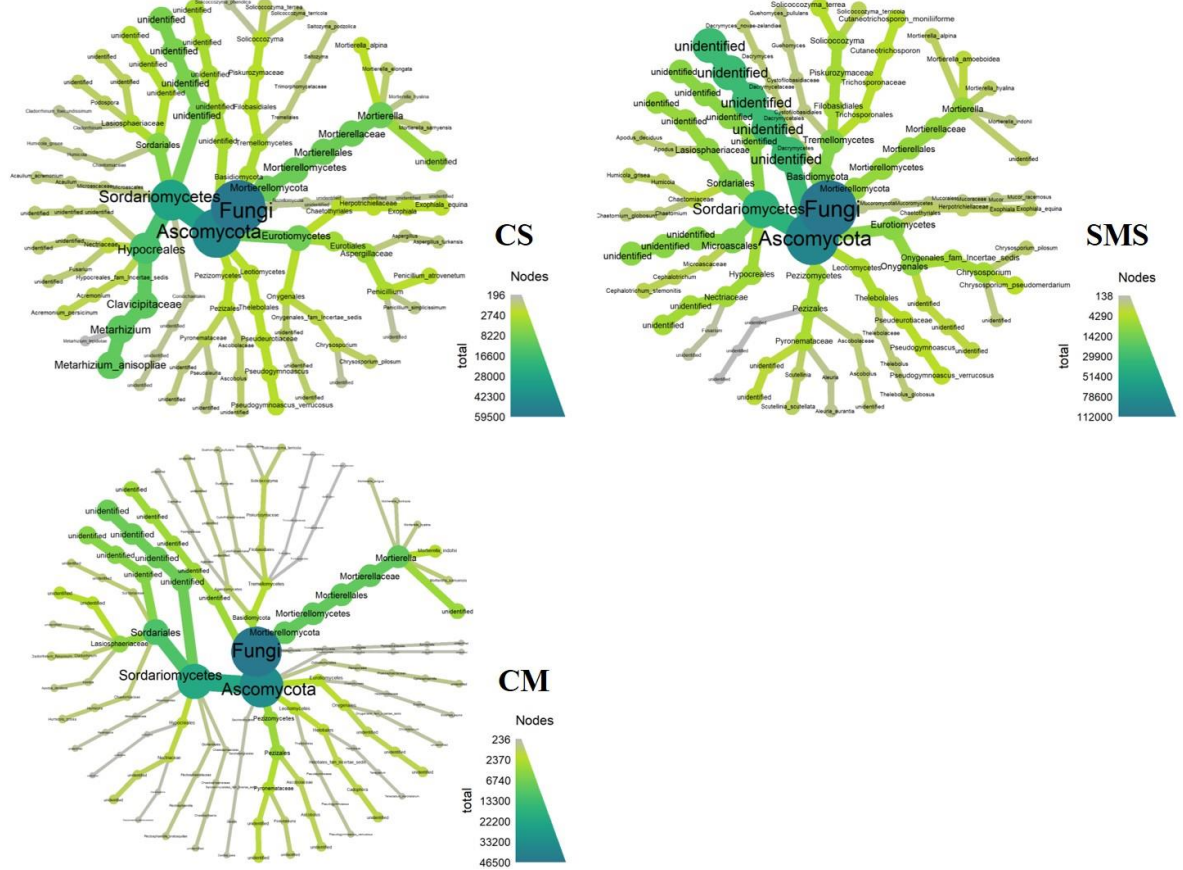


Table S1. Similarity matrix for the DGGE analysis of the fungal community. SMS, spent mushroom substrate; CM, chicken manure; CS, control soil.

	SMS	SMS	CM	CM	CS	CS
SMS	100.0					
SMS	86.1	100.0				
CM	36.3	35.8	100.0			
CM	36.9	37.1	88.0	100.0		
CS	34.8	40.0	64.3	59.9	100.0	
CS	34.7	38.1	72.1	66.7	86.5	100.0

Table S2. Richness (number of ribotypes; R), Shannon diversity (H), and Simpson's diversity (S) indices of the fungal populations in the soil treatments, based on the t-RFLP analysis. SMS, spent mushroom substrate; CM, chicken manure; CS, control soil.

Treatments	Richness index		Shannon diversity index		Simpson diversity index	
			(H)		(S)	
	<i>HaeIII</i>	<i>MseI</i>	<i>HaeIII</i>	<i>MseI</i>	<i>HaeIII</i>	<i>MseI</i>
SMS	15.33 ± 0.58	19.67 ± 1.53	2.74 ± 0.06	2.69 ± 0.06	0.91 ± 0.01	0.91 ± 0.00
	a	a	a	a	a	a
CM	19.00 ± 4.36	24.00 ± 2.65	2.71 ± 0.22	2.45 ± 0.10	0.89 ± 0.01	0.82 ± 0.01
	a	a	a	b	a	b
CS	12.00 ± 2.65	14.00 ± 1.00	2.25 ± 0.13	1.77 ± 0.07	0.82 ± 0.01	0.69 ± 0.03
	a	b	b	c	b	c

Table S3. Distribution of the different t-RFs fragments inside the various treatments enriched with exogenous organic matter. SMS, spent mushroom substrate; CM, chicken manure; CS, control soil.

Treatments	Total t-RFs occurred	t-RFs elements
CM CS SMS	12	T-RF (55); T-RF (81); T-RF (86); T-RF (89); T-RF (171); T-RF (176); T-RF (528); T-RF (548); T-RF (549); T-RF (535); T-RF (566); T-RF (598)
CM SMS	8	T-RF (53); T-RF (164); T-RF (172); T-RF (338); T-RF (382); T-RF (477); T-RF (556); T-RF (604)
CS SMS	2	T-RF (129); T-RF (342)
CM CS	9	T-RF (52); T-RF (54); T-RF (79); T-RF (99); T-RF (141); T-RF (165); T-RF (392); T-RF (550); T-RF (605)
SMS	23	T-RF (63); T-RF (97); T-RF (104); T-RF (107); T-RF (111); T-RF (123); T-RF (124); T-RF (153); T-RF (161); T-RF (200); T-RF (204); T-RF (276); T-RF (325); T-RF (388); T-RF (398); T-RF (443); T-RF (497); T-RF (505); T-RF (514); T-RF (526); T-RF (546); T-RF (562); T-RF (588);
CM	25	T-RF (51); T-RF (93); T-RF (108); T-RF (143); T-RF (156); T-RF (163); T-RF (169); T-RF (174); T-RF (214); T-RF (257); T-RF (258); T-RF (421); T-RF (460); T-RF (490); T-RF (510); T-RF (540); T-RF (543); T-RF (475); T-RF (558); T-RF (638); T-RF (640); T-RF (641); T-RF (650); T-RF (657); T-RF (658)
CS	16	T-RF (84); T-RF (101); T-RF (139); T-RF (192); T-RF (195); T-RF (383); T-RF (393); T-RF (408); T-RF (411); T-RF (506); T-RF (513); T-RF (518); T-RF (527); T-RF (539); T-RF (554); T-RF (627);

Table S4. Fungal genera in the treatments tested. The prediction was performed as an in silico analysis using the TRiFLe package. SMS, spent mushroom substrate; CM, chicken manure; CS, control soil.

Fungal name	t-RFLP fragments size (bp)	Treatments	% occurrence
<i>Meyerozyma</i> sp.	79	CM / CS	17.30 / 58.34
<i>Rasamsonia</i> sp.	84	CS	1.40
<i>Trichoderma</i> sp.	86	SMS / CM / CS	4.58 / 5.23 / 2.88
<i>Paraphaeosphaeria</i> sp.			
<i>Cladia</i> sp.			
<i>Sarocladium</i> sp.			
<i>Beauveria</i> sp.			
<i>Orbilia</i> sp.			
<i>Fusarium</i> sp.			
<i>Cenococcum</i> sp.	89	SMS/CM/CS	19.90 / 1.98 / 5.85
<i>Ilyonectria</i> sp.			
<i>Cylindrocarpon</i> sp.			
<i>Dactylonectria</i> sp.			
<i>Stachybotrys</i> sp.			
<i>Neonectria</i> sp.			
<i>Acremonium</i> sp.			
<i>Periconia</i> sp.			
<i>Aspergillus</i> sp.			
<i>Verrucaria</i> sp.	99	CM / CS	0.85 / 2.78
<i>Penicillium</i> sp.			
<i>Nemania</i> sp.			
<i>Lactarius</i> sp.	123	SMS	0.74
<i>Metarhizium</i> sp.	139	CS	12.41
<i>Exophiala</i> sp.	161	SMS	7.23
<i>Podospora</i> sp.			
<i>Cordana</i> sp.			
<i>Cercophora</i> sp.	163	CM	6.81
<i>Exophiala</i> sp.			
<i>Lenzites</i> sp.	475	CM	2.98
<i>Phoma</i> sp.	543	CM	4.48
<i>Lophiostoma</i> sp.	548	SMS / CM / CS	2.24 / 1.63 / 3.48
<i>Derxomyces</i> sp.	566	SMS / CM / CS	1.72 / 6.14 / 2.49

Table S5. Compilation of the next-generation sequencing readings of the fungal ITS1 for the particular taxonomic level in the treatments tested. SMS, spent mushroom substrate; CM, chicken manure; CS, control soil.

	SMS-1	SMS2	CM1	CM2	CS1	CS2
	SMS		CM		CS	
Raw reads, single samples	57589	366368	76262	210052	65782	268823
collapsed samples (average)	211978		143157		167302	
ITS1 sequences, single samples	27884	325009	20649	167801	23449	221414
collapsed samples (average)	176446		94225		122431	
Classification of fungal ITS1 sequences at						
Kingdom, single samples	22388	258412	12873	107881	16726	147867
collapsed samples (average)	140400		60377		82296	
% of all reads (raw reads)	66.23%		42.18%		49.19%	
% of reads classified as ITS1 sequences	79.57%		64.08%		67.22%	
% of reads classified as FUNGAL ITS1 sequences	100.00%		100.00%		100.00%	
Phylum, single samples	21853	253020	12690	104767	16020	140919
collapsed samples (average)	137436		58728		78469	
% of all reads (raw reads)	64.84%		41.02%		46.90%	
% of reads classified as ITS1 sequences	77.89%		62.33%		64.09%	
% of reads classified as FUNGAL ITS1 sequences	97.89%		97.27%		95.35%	
Class, single samples	17455	192423	11986	98211	15106	134204
collapsed samples (average)	104939		55098		74655	
% of all reads (raw reads)	49.50%		38.49%		44.62%	
% of reads classified as ITS1 sequences	59.47%		58.47%		60.98%	
% of reads classified as FUNGAL ITS1 sequences	74.74%		91.26%		90.72%	
Order, single samples	15613	174126	9221	83909	12975	120882
collapsed samples (average)	94869		46565		66928	
% of all reads (raw reads)	44.75%		32.53%		40.00%	
% of reads classified as ITS1 sequences	53.77%		49.42%		54.67%	
% of reads classified as FUNGAL ITS1 sequences	67.57%		77.12%		81.33%	
Family, single samples	11916	146592	7100	70052	11603	109361
collapsed samples (average)	79254		38576		60482	
% of all reads (raw reads)	37.39%		26.95%		36.15%	
% of reads classified as ITS1 sequences	44.92%		40.94%		49.40%	
% of reads classified as FUNGAL ITS1 sequences	56.45%		63.89%		73.49%	
Genus, single samples	9875	111410	6408	58052	10954	101368
collapsed samples (average)	60642		32230		56161	
% of all reads (raw reads)	28.61%		22.51%		33.57%	
% of reads classified as ITS1 sequences	34.37%		34.21%		45.87%	
% of reads classified as FUNGAL ITS1 sequences	43.19%		53.38%		68.24%	
Species, single samples	8459	97436	4108	37776	8803	81206
collapsed samples (average)	52947		20942		45004	
% of all reads (raw reads)	24.98%		14.63%		26.90%	
% of reads classified as ITS1 sequences	30.01%		22.23%		36.76%	
% of reads classified as FUNGAL ITS1 sequences	37.71%		34.69%		54.69%	
Shannon index (at read depth 60000),collapsed samples	5.950		6.863		6.960	
Simpson index (at read depth 60000), collapsed samples	0.937		0.977		0.971	
Observed otus (at read depth 60000), collapsed samples	796		848		972	

Table S6. Relative abundance (RA %), individual identification (n), and sequence number (reads) of the dominant phylogenetic genus in the soil with different treatments. SMS – spent mushroom substrate; CM – chicken manure; CS – control soil.

Phylum	Class	Order	Family	Genus	SMS		CM		CS	
					Count	Reads	Count	Reads	Count	Reads
Ascomycota	Arthoniomycetes	Arthoniomycetes	Arthoniomycetes	<i>Milospium</i>	1	2			2	305
	Arthoniomycetes	unidentified	unidentified	<i>unidentified</i>	2	332	3	301	3	51
	Dothideomycetes	Botryosphaeriales	Botryosphaeriaceae	<i>Dothiorella</i>	1	11	2	54		
			Phyllostictaceae	<i>Guignardia</i>	1	4	1	46		
		Capnodiales	Cladosporiaceae	<i>Cladosporium</i>	1	31	2	13	3	96
			Mycosphaerellaceae	<i>Mycosphaerella</i>	1	57	1	119	1	439
				<i>Pseudocercospora</i>					1	108
				<i>Zymoseptoria</i>					1	6
				<i>unidentified</i>					1	40
			Teratosphaeriaceae	<i>Devriesia</i>	2	291	1	73	2	383
			unidentified	<i>unidentified</i>	1	7				
		Dothideomycetes	Eremomycetaceae	<i>Arthrographis</i>	5	249	3	292	4	109
	Jahnulales	Jahnulales		<i>Speiropsis</i>			1	5		
	Pleosporales	Cucurbitariaceae		<i>Pyrenochaetopsis</i>	1	98	1	67	1	163
			Didymellaceae	<i>Didymella</i>	1	32	1	5	1	33
				<i>Endophoma</i>	1	26	1	22	1	94
				<i>Epicoccum</i>	2	58	1	33	2	349
				<i>Neoascochyta</i>	2	47	1	3	2	10
				<i>Xenodidymella</i>	1	13				
				<i>unidentified</i>					1	8
			Didymosphaeriaceae	<i>Kalmusia</i>	1	8	1	13		

		<i>Paraconiothyrium</i>				1	54
		<i>Paraphaeosphaeria</i>	1	32	1	15	36
	Lentitheciaceae	<i>Darksidea</i>				1	6
	Leptosphaeriaceae	<i>Leptosphaeria</i>				1	27
		<i>Plenodomus</i>	1	25	1	23	14
		<i>Subplenodomus</i>	1	3	1	4	
	Melanommataceae	<i>Herpotrichia</i>	1	11		1	5
	Phaeosphaeriaceae	<i>Ophiosphaerella</i>	2	34	3	612	88
		<i>Paraphoma</i>				2	70
		<i>Phaeosphaeria</i>	1	1		2	21
		<i>Septoriella</i>			1	4	2
		<i>unidentified</i>	2	6		1	5
	Pleosporaceae	<i>Alternaria</i>	5	72	6	42	179
		<i>Bipolaris</i>			1	10	
		<i>Curvularia</i>			1	2	4
		<i>Paradendryphiella</i>	1	6			
		<i>Pyrenophora</i>				1	7
		<i>Setosphaeria</i>				1	30
	Sporormiaceae	<i>Preussia</i>	1	158	2	8	85
	Tetraplosphaeriaceae	<i>Tetraplosphaeria</i>	1	153	1	23	7
		<i>Triplosphaeria</i>				1	10
	Torulaceae	<i>Torula</i>				1	10
	unidentified	<i>unidentified</i>	6	291	5	159	134
Tubeufiales	Tubeufiaceae	<i>Helicoma</i>	1	16		1	2
Venturiales	Sympoventuriaceae	<i>Ochroconis</i>	2	12	1	2	28
		<i>Scolecobasidium</i>	2	25		2	20

Eurotiomycetes	unidentified	unidentified	Venturiaceae	<i>Venturia</i>			2	4	2	10
				<i>unidentified</i>	1	3	1	4	1	29
	Chaetothyriales	unidentified		<i>unidentified</i>	5	82	2	8	4	155
			Chaetothyriales	<i>Sarcinomyces</i>	1	64	1	1	1	1
			Cyphellophoraceae	<i>Cyphellophora</i>	1	9			1	16
			Herpotrichiellaceae	<i>Cladophialophora</i>	5	190			5	150
				<i>Exophiala</i>	6	1510	7	399	7	2277
				<i>Phialophora</i>	1	4	1	68	1	2
				<i>Rhinocladiella</i>					1	11
				<i>unidentified</i>	1	257	1	20	3	13
			Trichomeriaceae	<i>Bradomyces</i>					1	1
				<i>Knufia</i>					2	21
			unidentified	<i>unidentified</i>	8	211	8	61	14	213
	Eurotiales	Aspergillaceae		<i>Aspergillus</i>	8	259	11	77	12	880
				<i>Penicillium</i>	23	1506	15	214	25	3915
				<i>unidentified</i>	1	5	2	3	2	66
			Thermoascaceae	<i>Byssochlamys</i>					1	8
	Trichocomaceae	unidentified		<i>Sagenomella</i>	1	4	1	13	2	64
				<i>Talaromyces</i>	5	66	5	33	9	299
				<i>Thermomyces</i>	1	4			2	18
				<i>unidentified</i>	1	3	1	23	1	4
				<i>unidentified</i>	2	13	1	55	2	46
			unidentified	<i>unidentified</i>						
	Mycocaliciales	Mycocaliciaceae		<i>Chaenothecopsis</i>					1	15
	Onygenales	Arachnomycetaceae		<i>Arachnomycetes</i>	2	385	2	56	2	21
		Arthrodermataceae		<i>Arthroderma</i>	2	59				
		Ascosphaeraceae		<i>Ascosphaera</i>			1	7		

		Gymnoascaceae	<i>Gymnoascus</i>	1	3	1	5	1	8
			<i>unidentified</i>	2	536	1	18	2	16
		Onygenaceae	<i>Aphanoascus</i>			1	4	1	2
			<i>Auxarthron</i>					1	58
			<i>unidentified</i>			1	5	1	6
		Onygenales	<i>Chrysosporium</i>	10	5863	9	735	10	1857
		unidentified	<i>unidentified</i>	7	2481	6	1322	7	995
	Pyrenulales	Pyrenulaceae	<i>Pyrenula</i>			1	13		
	Verrucariales	Verrucariaceae	<i>Bagliettoa</i>					1	9
			<i>Polyblastia</i>	1	11	1	24		
			<i>Staurothele</i>					1	27
			<i>Verrucaria</i>	1	1			2	138
			<i>unidentified</i>					1	51
			<i>unidentified</i>	1	18			1	1
	unidentified	unidentified	<i>unidentified</i>						
GS35	GS35	unidentified	<i>unidentified</i>			1	8		
GS37	GS37	unidentified	<i>unidentified</i>	1	1			1	6
Geoglossomycetes	Geoglossales	Geoglossaceae	<i>Glutinoglossum</i>					1	36
Lecanoromycetes	Caliciales	Caliciaceae	<i>Calicium</i>	2	111	1	12	1	1
	Lecanorales	Catillariaceae	<i>Solenopsora</i>					1	8
		Cladoniaceae	<i>Cladia</i>					1	24
			<i>Cladonia</i>	1	1			2	26
			<i>Parmotrema</i>	1	9	1	3	1	1
		Parmeliaceae	<i>Xanthoparmelia</i>	1	42	1	1	1	31
			<i>unidentified</i>	1	23			1	9
			<i>Bacidia</i>	1	93	1	131		
		Ramalinaceae	<i>Biatora</i>	1	29				

Leotiomycetes	Peltigerales	Stereocaulaceae	<i>Lecania</i>	2	31	4	15	5	109
			<i>Lepraria</i>	1	1			1	8
		Collemataceae	<i>Leptogium</i>			1	9		
	Helotiales	Pannariaceae	<i>Pectenias</i>	1	8			1	1
		Dermateaceae	<i>Oculimacula</i>			1	8		
		Helotiaceae	<i>Articulospora</i>	2	4	2	22	2	40
			<i>Collophora</i>	1	3			1	7
			<i>Crocicreas</i>			1	40	1	4
			<i>Scytalidium</i>	1	24	1	1	1	51
			<i>Tetracladium</i>	2	77	3	348	3	52
		Helotiales	<i>Cadophora</i>	2	48	2	1351	2	107
			<i>Chalara</i>	3	772	2	34	4	59
		Hyaloscyphaceae	<i>Arachnopeziza</i>	1	30	1	61	1	18
			<i>Cistella</i>	3	11	2	29	2	58
			<i>unidentified</i>	2	395	3	43	2	68
		Leotiaceae	<i>Neobulgaria</i>			1	6	1	11
		Myxotrichaceae	<i>Oidiodendron</i>	5	219	5	130	6	101
		Sclerotiniaceae	<i>Botrytis</i>			1	1	1	39
		Vibrisseaceae	<i>Phialocephala</i>	1	5	1	5	1	5
		unidentified	<i>unidentified</i>	10	478	9	211	13	275
	Thelebolales	Pseudeurotiaceae	<i>Geomyces</i>			1	13	1	1
			<i>Gymnostellatospora</i>	1	3	1	20	1	5
			<i>Pseudeurotium</i>	3	43	3	380	3	12
			<i>Pseudogymnoascus</i>	6	3436	6	441	6	2489
Orbiliomycetes	Orbiliales	Thelebolaceae	<i>Thelebolus</i>	1	1081	1	165	1	183
		Orbiliaceae	<i>Arthrobotrys</i>	2	10	3	23	1	2

Pezizomycetes	Pezizales	Orbiliales	<i>Dactylella</i>					2	15
			<i>Orbilina</i>			1	32		
			<i>unidentified</i>	1	2			3	83
			<i>Vermispora</i>	1	2			1	8
		Ascobolaceae	<i>Ascobolus</i>	2	1110	3	1202	4	1032
		Pezizaceae	<i>Peziza</i>	2	29	1	2	2	32
		Pyronemataceae	<i>Aleuria</i>	1	664	2	15	2	3
			<i>Byssonectria</i>			1	9		
			<i>Genea</i>	1	12			1	15
			<i>Geopyxis</i>			1	10		
			<i>Kotlabaea</i>					1	6
			<i>Pseudaleuria</i>	2	266	2	867	2	632
			<i>Scutellinia</i>	6	1534	5	350	4	33
			<i>Tricharina</i>	2	20			1	1
			<i>unidentified</i>	3	2699	7	1547	5	767
Saccharomycetes	Saccharomycetales	Sarcoscyphaceae	<i>Desmazierella</i>					1	6
		Sarcosomataceae	<i>unidentified</i>			1	73		
		unidentified	<i>unidentified</i>	1	138			2	13
		Debaryomycetaceae	<i>Debaryomyces</i>	1	5	1	1	1	2
			<i>Priceomyces</i>					1	35
		Dipodascaceae	<i>Geotrichum</i>	2	7			1	13
		Lipomycetaceae	<i>Lipomyces</i>	1	19	1	2	1	7
		Phaffomycetaceae	<i>Barnettozyma</i>	1	1	1	10		
		Pichiaceae	<i>Dekkera</i>					1	16
		Saccharomycetaceae	<i>unidentified</i>			1	8		
		Saccharomycetales	<i>Candida</i>	3	24	3	408	3	11

Sordariomycetes			<i>Nadsonia</i>	2	30	1	1	2	26
		Trichomonascaceae	<i>Blastobotrys</i>	1	5	3	66	1	20
		unidentified	<i>unidentified</i>	5	53	1	6		
	Branch06	unidentified	<i>unidentified</i>			1	11	1	16
	Chaetosphaeriales	Chaetosphaeriaceae	<i>Chaetosphaeria</i>	3	32	3	506	2	266
			<i>Chloridium</i>	1	14	2	7	1	30
			<i>unidentified</i>	1	7				
	Coniochaetales	Coniochaetaceae	<i>Coniochaeta</i>	5	268	5	35	4	378
			<i>unidentified</i>	3	63	3	22	4	186
			<i>unidentified</i>	2	224	2	99	2	528
	Diaporthales	Cryphonectriaceae	<i>Luteocirrhus</i>			1	7		
	Glomerellales	Plectosphaerellaceae	<i>Acrostalagmus</i>	1	23	1	4	1	30
			<i>Gibellulopsis</i>	1	3			1	13
			<i>Plectosphaerella</i>	3	81	3	605	2	76
	Hypocreales	Catabotrydaceae	<i>unidentified</i>			1	11		
		Bionectriaceae	<i>Clonostachys</i>	2	16	3	143	5	322
			<i>Geosmithia</i>	1	135	1	114	1	4
			<i>Valsonectria</i>	1	7	1	1	1	5
			<i>Verrucostoma</i>	4	36	3	77	4	116
			<i>unidentified</i>	2	283	1	10	1	1
		Clavicipitaceae	<i>Collarina</i>	1	48	1	23	1	74
			<i>Metacordyceps</i>	1	18	1	19	1	34
			<i>Metarhizium</i>	6	880	8	242	10	11491
			<i>Pochonia</i>	1	20	1	3		
			<i>unidentified</i>	1	11	1	6	1	41
		Cordycipitaceae	<i>Isaria</i>	1	3			1	3

	<i>Simplicillium</i>			1	6		
Hypocreaceae	<i>Hypomyces</i>	2	4			2	12
	<i>Trichoderma</i>	15	494	15	652	18	542
Hypocreales	<i>Acremonium</i>	7	84	8	111	9	1539
	<i>Bulbithecium</i>	1	6			1	156
	<i>Emericellopsis</i>	3	439	3	211	3	107
	<i>Leucosphaerina</i>					1	30
	<i>Sarocladium</i>	1	5	1	5	1	3
	<i>unidentified</i>	2	2			2	24
Nectriaceae	<i>Cosmospora</i>	1	8	4	17	3	6
	<i>Dactylonectria</i>	2	2	2	306	2	195
	<i>Dendroclathra</i>	1	6	1	22		
	<i>Fusarium</i>	9	1212	9	656	10	1489
	<i>Fusicolla</i>	2	49	2	125	2	168
	<i>Gibberella</i>	1	132	1	79	1	392
	<i>Ilyonectria</i>	2	58	2	25	2	85
	<i>Nectria</i>	2	701	2	50	2	75
	<i>Volutella</i>					1	13
	<i>unidentified</i>	12	5914	11	1125	10	903
Ophiocordycipitaceae	<i>Haptocillium</i>	1	6	1	40		
	<i>Hirsutella</i>	1	4			1	4
	<i>Ophiocordyceps</i>	1	1	1	19	1	40
	<i>Purpureocillium</i>	2	148	2	81	2	127
	<i>Tolypocladium</i>	1	4	1	6	1	10
Stachybotryaceae	<i>Stachybotrys</i>	1	4	1	3	1	3
unidentified	<i>unidentified</i>	13	384	11	287	13	852

Magnaporthales	Magnaporthaceae	<i>Arxiella</i>			1	3	1	3
		<i>Buergenerula</i>	1	3	1	3	1	1
		<i>Gaeumannomyces</i>	1	67	2	85	2	91
		<i>Neogaeumannomyces</i>			2	74		
		<i>Pyricularia</i>	1	7	1	17	1	1
		<i>Slopeiomyces</i>	1	7			1	118
Melanosporales	Ceratostomataceae	<i>Harzia</i>	5	339	1	18	5	38
	Melanosporaceae	<i>Melanospora</i>	8	349	7	411	9	161
Microascales	Halosphaeriaceae	<i>unidentified</i>					1	11
	Microascaceae	<i>Acaulium</i>	3	62	5	157	4	811
		<i>Cephalotrichum</i>	4	1887	2	54	3	103
		<i>Gamsia</i>	1	47				
		<i>Microascus</i>	2	3	3	488	3	11
		<i>Petriella</i>					1	11
		<i>Pithoascus</i>	1	1	1	11	1	2
		<i>Pseudallescheria</i>	1	5	1	1	1	13
		<i>Scedosporium</i>	1	5	2	11	1	3
		<i>Scopulariopsis</i>			1	19	1	3
		<i>unidentified</i>					1	12
	Microascales	<i>Wardomyces</i>	1	18			1	113
	unidentified	<i>unidentified</i>	6	9928	2	14	6	141
Myrmecridiales	Myrmecridiaceae	<i>Myrmecridium</i>	2	20	3	91	3	52
Ophiostomatales	Ophiostomataceae	<i>Ophiostoma</i>	2	63	1	69	2	12
		<i>Sporothrix</i>	2	20	2	32	2	138
Sordariales	Cephalothecaceae	<i>Phialemonium</i>	2	37	1	7		
	Chaetomiaceae	<i>Chaetomium</i>	11	1437	6	125	9	82

			<i>Dichotomopilus</i>	3	33	1	7	3	51
			<i>Humicola</i>	4	1540	4	811	3	625
			<i>Melanocarpus</i>	2	32	1	2	2	121
			<i>Mycothermus</i>	1	5			2	18
			<i>Thielavia</i>	4	155			3	49
			<i>Trichocladium</i>	1	14	1	64	1	92
			<i>unidentified</i>	3	25	2	6	2	136
		Lasiosphaeriaceae	<i>Apodus</i>	3	1178	3	659	2	164
			<i>Cercophora</i>	2	28	3	27	4	187
			<i>Cladorrhinum</i>	5	224	3	933	4	653
			<i>Podospora</i>	6	242	7	554	7	1131
			<i>Schizothecium</i>	3	136	4	34	4	111
			<i>unidentified</i>	7	7702	9	2227	6	1228
		Sordariaceae	<i>Neurospora</i>			1	12		
			<i>unidentified</i>	5	38	7	839	5	214
		Sordariales	<i>Conlarium</i>	1	10	2	8	2	4
			<i>Remersonia</i>	1	7			1	52
		unidentified	<i>unidentified</i>	5	816	8	5145	7	2774
	Xylariales	Apiosporaceae	<i>Arthrinium</i>			1	10	1	3
			<i>unidentified</i>			1	7	1	29
		Hyponectriaceae	<i>Monographella</i>			1	3	1	2
		Xylariaceae	<i>Xylaria</i>			1	16		
			<i>unidentified</i>	1	5	1	10	2	51
	unidentified	unidentified	<i>unidentified</i>	25	9612	26	7457	28	7425
unidentified	unidentified	unidentified	<i>unidentified</i>	27	31690	21	3455	31	3236

Basidiomycota	Agaricomycetes	Agaricales	Agaricaceae	<i>Melanophyllum</i>				1	6
			Amanitaceae	<i>Amanita</i>		3	47	1	22
			Bolbitiaceae	<i>Bolbitius</i>	1	27	1	5	20
				<i>Conocybe</i>	2	69	3	85	5
			Clavariaceae	<i>Mucronella</i>	2	40			
				<i>unidentified</i>			1	6	
			Cortinariaceae	<i>Cortinarius</i>				1	6
			Entolomataceae	<i>Entoloma</i>	2	3	2	10	22
			Hygrophoraceae	<i>Chrysomphalina</i>				1	5
			Inocybaceae	<i>Inocybe</i>	1	58	2	25	15
			Lycoperdaceae	<i>Lycoperdon</i>			1	2	5
			Lyophyllaceae	<i>Calocybella</i>				1	6
			Omphalotaceae	<i>Omphalotus</i>				1	6
			Psathyrellaceae	<i>Coprinellus</i>	2	32	5	635	94
				<i>Coprinopsis</i>			2	216	25
				<i>Psathyrella</i>	6	36	6	76	145
				<i>unidentified</i>			1	33	
			Strophariaceae	<i>Stropharia</i>				1	21
			Tricholomataceae	<i>Baeospora</i>	1	3		1	6
				<i>Campanophyllum</i>	1	9	1	5	
				<i>Hemimycena</i>	2	48	1	6	3
				<i>Tricholoma</i>				2	85
				<i>unidentified</i>	1	7	2	7	12
			unidentified	<i>unidentified</i>	3	174	3	119	8
		Boletales	Boletaceae	<i>Xerocomellus</i>	1	2	2	90	14

		<i>unidentified</i>	2	75	1	2	1	1
	Pisolithaceae	<i>Pisolithus</i>			1	8		
	Rhizopogonaceae	<i>Rhizopogon</i>					1	27
	Sclerodermataceae	<i>Scleroderma</i>	1	5	1	7		
Cantharellales	Botryobasidiaceae	<i>Botryobasidium</i>			1	5		
	Cantharellales	<i>Minimedusa</i>	6	47	5	8	3	209
		<i>Sistotrema</i>	1	2	1	26	2	29
		<i>unidentified</i>	1	15	1	2	1	18
	Ceratobasidiaceae	<i>unidentified</i>			2	105		
	Clavulinaceae	<i>Clavulina</i>	2	14	2	16	1	1
		<i>unidentified</i>	2	9	2	2	2	12
	Hydnaceae	<i>Hydnum</i>			1	16		
	Tulasnellaceae	<i>unidentified</i>	1	55				
Corticiales	Corticaceae	<i>Laetisaria</i>			1	6		
Gomphales	Gomphaceae	<i>Clavariadelphus</i>			1	2	1	10
Hymenochaetales	Schizoporaceae	<i>Hyphodontia</i>	1	21	1	9	1	184
		<i>Xylodon</i>	1	13	1	1		
Phallales	Phallaceae	<i>Mutinus</i>	1	16			1	3
Polyporales	Fomitopsidaceae	<i>Antrodia</i>			1	16	1	5
	Hyphodermataceae	<i>Hyphoderma</i>	1	24				
	Meruliaceae	<i>Gyrophanopsis1</i>	1	1	1	3	2	24
	Podoscyphaceae	<i>Hypochnicium</i>	1	10	1	55		
	<i>unidentified</i>	<i>unidentified</i>	3	35	3	24	4	98
Russulales	Russulaceae	<i>Russula</i>	1	5				
	Stereaceae	<i>Amylostereum</i>	1	1	1	2	1	3
Sebacinales	Serendipitaceae	<i>Serendipita</i>	2	258	1	45	1	6

			<i>unidentified</i>	2	9			2	6
	Thelephorales	Bankeraceae	<i>Hydnellum</i>			1	6		
		Thelephoraceae	<i>Tomentellopsis</i>	1	27				
	Trechisporales	Hydnodontaceae	<i>Trechispora</i>					1	8
	unidentified	unidentified	<i>unidentified</i>	3	8	2	626	4	84
Agaricostilbomycetes	Agaricostilbales	Kondoaceae	<i>Kondoa</i>	2	23	2	38	4	123
Cystobasidiomycetes	Cystobasidiales	Cystobasidiaceae	<i>Occultifur</i>	1	7	1	2		
	Erythrobasidiales	Erythrobasidiales	<i>Sakaguchia</i>	1	1	1	1	1	5
Dacrymycetes	Dacrymycetales	Dacrymycetaceae	<i>Dacrymyces</i>	4	1133			1	5
Exobasidiomycetes	Exobasidiales	unidentified	<i>unidentified</i>	2	36			2	4
	Golubeviales	Golubeviaceae	<i>Golubevia</i>			1	3	1	2
	Tilletiales	Tilletiaceae	<i>Tilletia</i>			1	15	1	3
Malasseziomycetes	Malasseziales	Malasseziaceae	<i>Malassezia</i>	1	2	2	6	2	15
Microbotryomycetes	Leucosporidiales	Leucosporidiaceae	<i>Leucosporidium</i>					1	30
		unidentified	<i>unidentified</i>	1	25	1	130	1	11
	Microbotryomycetes	Chrysozymaceae	<i>Vonarxula</i>	2	69	2	25		
			<i>Yurkovia</i>			1	23		
	Sporidiobolales	Sporidiobolales	<i>Rhodotorula</i>	3	49	3	111	2	280
			<i>Sporobolomyces</i>			1	5		
Pucciniomycetes	Platyglloeales	Eocronartiaceae	<i>Eocronartium</i>	2	19				
	Pucciniales	Phakopsoraceae	<i>Phakopsora</i>	4	18	4	54	2	39
		Pucciniastraceae	<i>Thekopsora</i>	1	480			2	13
	unidentified	unidentified	<i>unidentified</i>					1	6
Tremellomycetes	Cystofilobasidiales	Cystofilobasidiaceae	<i>Cystofilobasidium</i>	2	46				
			<i>Guehomyces</i>	1	889	1	534	1	21
		Mrakiaceae	<i>Mrakia</i>	1	20	1	56	1	18

			Filobasidiales	Filobasidiaceae	<i>Filobasidium</i>	1	2	1	1	1	9	
					<i>Goffeauzyma</i>	1	74	1	16	1	1	
					<i>Naganishia</i>	1	21	1	6	1	13	
				Piskurozymaceae	<i>Solicoccozyma</i>	9	6320	7	1208	8	2387	
			Holtermanniales	Holtermanniales	<i>Holtermanniella</i>	2	101	1	10	2	48	
			Tremellales	Bulleribasidiaceae	<i>Dioszegia</i>			1	3	1	3	
					<i>Vishniacozyma</i>	1	1	1	9	1	9	
				Rhynchogastremataceae	<i>Papiliotrema</i>	1	6			1	12	
				Tremellaceae	<i>Cryptococcus</i>	2	165	2	12	2	43	
			<i>Tremella</i>		1	6			1	4		
				Trimorphomycetaceae	<i>Saitozyma</i>	2	675	2	236	2	764	
				unidentified	<i>unidentified</i>				1	4	1	17
				Trichosporonales	Trichosporonaceae	<i>Apiotrichum</i>	5	244	4	342	1	1
						<i>Cutaneotrichosporon</i>	5	3843	1	2	4	44
	unidentified	unidentified	<i>unidentified</i>	1	20	1	143	1	2			
	Ustilaginomycetes	Urocystidales	Urocystidaceae	<i>Urocystis</i>	1	3	1	6	1	9		
		Ustilaginales	Ustilaginaceae	<i>Pseudozyma</i>	1	5	1	2				
	unidentified	unidentified	unidentified	<i>unidentified</i>	2	2	2	35	1	10		
Blastocladiomycota	Blastocladiomycetes	Blastocladales	Blastocladiaceae	<i>Microallomyces</i>	1	71	3	161	1	1		
			Physodermataceae	<i>Physoderma</i>	1	3	1	3				
Chytridiomycota	Rhizophlyctidomycetes	Rhizophlyctidales	Sonoraphlyctidaceae	<i>Sonoraphlyctis</i>	1	8	1	126	1	12		
	Rhizophydiomycetes	Rhizophydiales	Angulomycetaceae	<i>Angulomyces</i>	1	10			1	1		
			Halomycetaceae	<i>Paludomyces</i>	5	319	1	62	2	50		
			Rhizophydiales	<i>Homolaphlyctis</i>					1	7		
	Spizellomycetes	Spizellomycetales	Powellomycetaceae	<i>Powellomyces</i>	5	175	3	21	4	45		

			Spizellomycetaceae	<i>Kochiomyces</i>	1	1	1	25		
	unidentified	unidentified	unidentified	<i>unidentified</i>	4	101	2	7	5	56
Entomophthoromycota	Basidiobolomycetes	Basidiobolales	Basidiobolaceae	<i>Basidiobolus</i>	1	45				
				<i>Schizangiella</i>	1	5	1	11		
Glomeromycota	Glomeromycetes	Diversisporales	Diversisporaceae	<i>Diversispora</i>			1	7		
				<i>unidentified</i>			2	34		
		Glomerales	Claroideoglomeraceae	<i>Claroideoglomus</i>			2	8	1	11
			Glomeraceae	<i>Funneliformis</i>			3	31	2	96
				<i>Glomus</i>					1	6
				<i>unidentified</i>			3	14	3	47
	Paraglomeromycetes	Paraglomerales	Paraglomeraceae	<i>Paraglomus</i>			2	24		
			unidentified	<i>unidentified</i>			1	5		
Kickxellomycota	Kickxellomycetes	Kickxellales	unidentified	<i>unidentified</i>	1	19				
Monoblepharomycota	Hyaloraphidiomycetes	Hyaloraphidiales	Hyaloraphidiales	<i>Hyaloraphidium</i>	2	39	2	35	3	108
Mortierellomycota	Mortierellomycetes	Mortierellales	Mortierellaceae	<i>Mortierella</i>	38	9150	39	9002	33	9755
				<i>unidentified</i>	21	484	11	155	13	312
			unidentified	<i>unidentified</i>			1	21	1	10
Mucoromycota	Mucoromycetes	Mucorales	Cunninghamellaceae	<i>Absidia</i>	1	2	1	9	1	4
			Lichtheimiaceae	<i>Circinella</i>	1	3	1	3	1	2
				<i>Thamnostylum</i>			1	6		
			Mucoraceae	<i>Mucor</i>	10	923	12	88	12	64
			Mycotyphaceae	<i>Mycotypha</i>			1	13		
			Rhizopodaceae	<i>Rhizopus</i>	1	4	1	35	1	15
	Umbelopsidomycetes	Umbelopsidales	Umbelopsidaceae	<i>Umbelopsis</i>	1	84			1	141
	unidentified	unidentified	unidentified	<i>unidentified</i>			1	16		

Olpidiomycota	GS17	unidentified	unidentified	<i>unidentified</i>					1	5
	Olpidiomycetes	Olpidiales	Olpidiaceae	<i>Olpidium</i>	2	25	1	6	1	5
Rozellomycota	Rozellomycotina	GS02	unidentified	<i>unidentified</i>	1	5	1	5		
		GS04	unidentified	<i>unidentified</i>			2	81	2	16
		GS05	unidentified	<i>unidentified</i>	10	243	8	92	7	209
		GS07	unidentified	<i>unidentified</i>	3	10	5	93	2	6
		GS10	unidentified	<i>unidentified</i>	2	27			1	2
		GS11	unidentified	<i>unidentified</i>	1	9	2	28	1	5
	unidentified	unidentified	unidentified	<i>unidentified</i>	13	706	13	118	15	514
Zoopagomycota	Zoopagomycetes	Zoopagales	Piptocephalidaceae	<i>Piptocephalis</i>	1	1			1	15
				<i>Syncephalis</i>	10	654	10	330	10	105
unidentified	unidentified	unidentified	unidentified	<i>unidentified</i>	139	2964	146	1649	175	3827
Total number of individuals					947		904		1053	
Total number of reads						140400		60377		82297
Total number of species					418		418		475	

Table S7. Functional guilds for the three main trophic modes: patotrophs, symbiotrophs, and saprotrophs in soil amended with waste exogenous organic matter.

Trophic mode	Treatments		
	SMS	CM	CS
OTUs numbers			
Pathotroph	5 916	1 862	4 566

Functional guild	Treatments		
	SMS	CM	CS
OTUs numbers			
Animal Parasite-Fungal Parasite	25	6	5
Animal pathogen	1 524	479	2 293
Animal pathogen-Plant Pathogen	124	25	43
Fungal Parasite	841	465	265
Lichen Parasite	0	0	21
Plant Pathogen	3 403	888	1 940

Trophic mode	Treatments		
	SMS	CM	CS
OTUs numbers			
Saprotrophs	22 467	12 092	11 641

Functional guild	Treatments		
	SMS	CM	CS
OTUs numbers			
Dung Saprotroph	1 493	247	391
Dung Saprotroph-Plant Saprotroph	577	861	238
Dung Saprotroph-Soil Saprotroph-Wood Saprotroph	1 110	1 202	1 032
Dung Saprotroph-Soil Saprotroph	0	5	6
Dung Saprotroph-Undefined Saprotroph	540	411	209
Fungal Parasite-Wood Saprotroph	37	7	0
Leaf Saprotroph	62	0	3
Plant Saprotroph	0	17	32
Plant Saprotroph-Wood Saprotroph	3 920	1 389	2 865
Soil Saprotroph	244	342	1
Soil Saprotroph-Undefined Saprotroph	90	216	33
Undefined Saprotroph	12 733	7 262	6 068
Undefined Saprotroph-Wood Saprotroph	0	5	11
Wood Saprotroph	1 664	131	754

Trophic mode	Treatments		
	SMS	CM	CS
OTUs numbers			
Symbiotrophs	500	1 913	850

Functional guild	Treatments		
	SMS	CM	CS
OTUs numbers			
Arbuscular Mycorrhizal	0	121	159
Ectomycorrhizal	35	53	52
Endophyte	64	1 504	231

Epiphyte	0	0	5
Lichenized	144	190	397
Orchid Mycorrhizal	258	45	6
