

Supplementary Figures

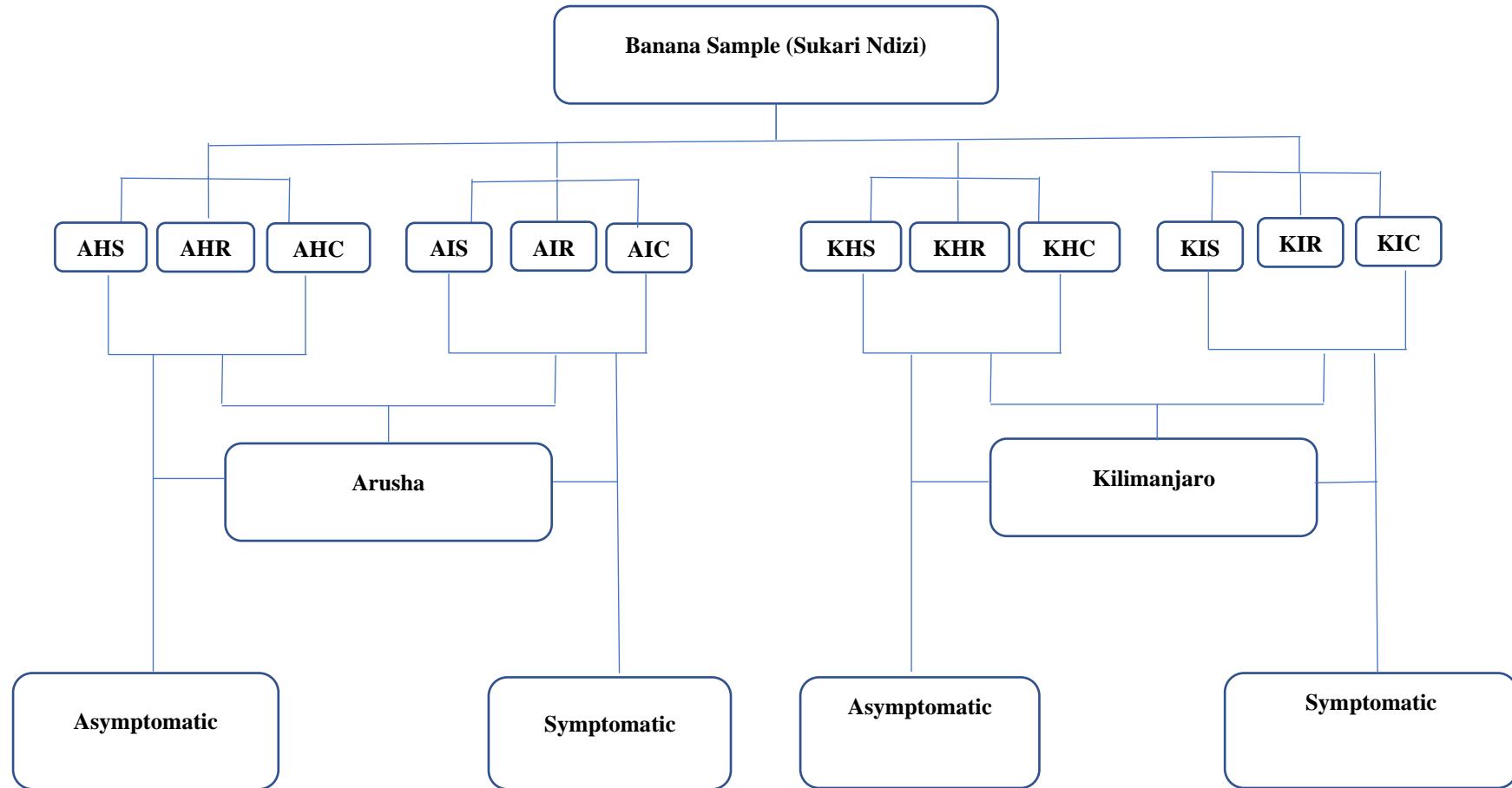
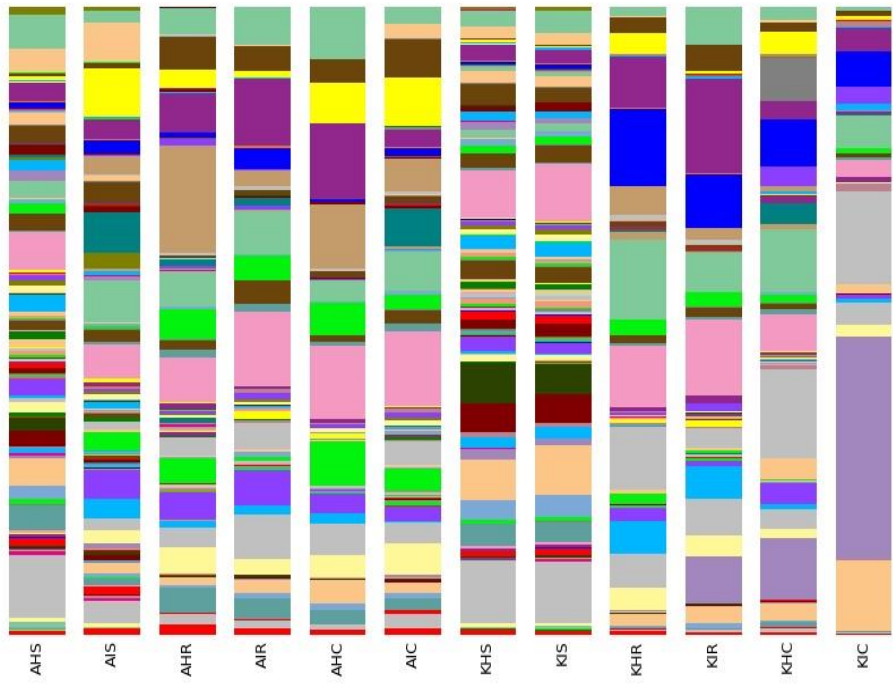
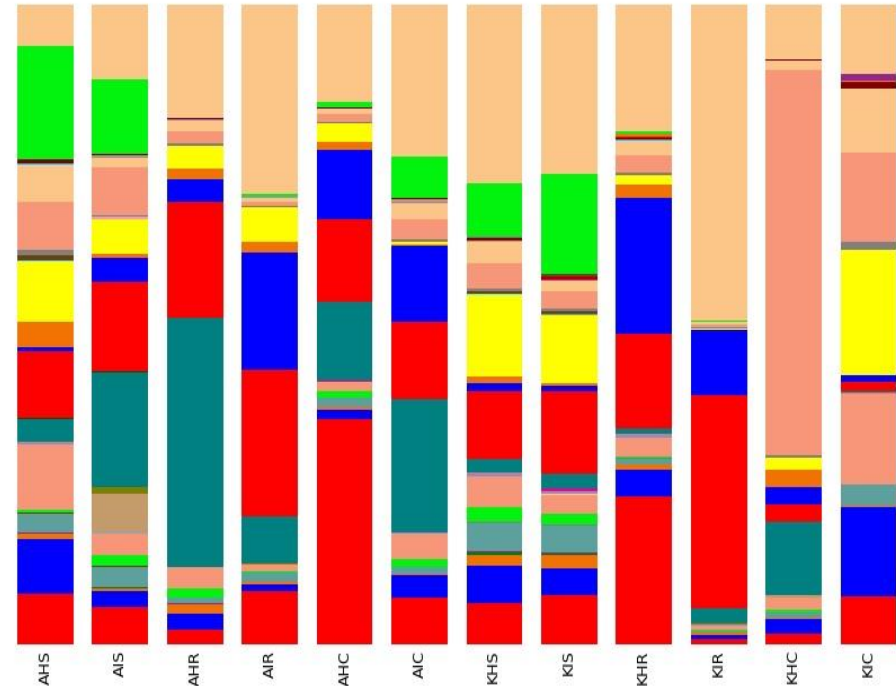


Figure S1. Overview of sampling strategy from asymptomatic and symptomatic putative *Fusarium* infected banana plants. Each sample is a composite of three sub-samples. S: Rhizosphere; R: Roots; C: Corm; A: Arusha; K: Kilimanjaro; H: Asymptomatic; I: Symptomatic



Bacterial communities



Fungal communities

- k_Bacteria;p_Actinobacteria;c_Actinobacteria;o_Actinomycetales
- k_Bacteria;p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales
- k_Bacteria;p_Bacteroidetes;c_Cytophagia;o_Cytophagales
- k_Bacteria;p_Bacteroidetes;c_Flavobacteria;o_Flavobacteriales
- k_Bacteria;p_Bacteroidetes;c_[Saprospirae];o_[Saprosirales]
- k_Bacteria;p_Firmicutes;c_Bacilli;o_Bacillales
- k_Bacteria;p_Firmicutes;c_Clostridia;o_Clostridiales
- k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Rhizobiales
- k_Bacteria;p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales
- k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales
- k_Bacteria;p_Proteobacteria;c_Betaproteobacteria;o_Rhodocyclales
- k_Bacteria;p_Proteobacteria;c_Deltaproteobacteria;o_Desulfuromonadales
- k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Enterobacteriales
- k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Xanthomonadales
- k_Bacteria;p_Proteobacteria;c_Gammaproteobacteria;o_Xanthomonadales
- k_Bacteria;p_Spirochaetes;c_Spirochaetes;o_Spirochaetales
- k_Bacteria;p_Verrucomicrobia;o_Opitutales
- k_Bacteria;p_Verrucomicrobia;o_Verrucomicrobiales
- k_Bacteria;p_Verrucomicrobia;c_[Spartobacteria];o_[Chthoniobacteriales]
- All Other Categories

- k_Fungi;p_Ascomycota;Other;Other
- k_Fungi;p_Ascomycota;c_Dothideomycetes;o_Pleosporales
- k_Fungi;p_Ascomycota;c_Eurotiomycetes;o_Chaetothyriales
- k_Fungi;p_Ascomycota;c_Eurotiomycetes;o_Eurotiales
- k_Fungi;p_Ascomycota;c_Sordariomycetes;Other
- k_Fungi;p_Ascomycota;c_Sordariomycetes;o_Hypocreales
- k_Fungi;p_Ascomycota;c_Sordariomycetes;o_Incertae_sedis
- k_Fungi;p_Ascomycota;c_Sordariomycetes;o_Microascales
- k_Fungi;p_Ascomycota;c_Sordariomycetes;o_Sordariales
- k_Fungi;p_Ascomycota;c_Sordariomycetes;o_Xylariales
- k_Fungi;p_Ascomycota;c_unidentified;o_unidentified
- k_Fungi;p_Basidiomycota;Other;Other
- k_Fungi;p_Basidiomycota;c_Agaricomycetes;o_Agaricales
- k_Fungi;p_Basidiomycota;c_Agaricomycetes;o_Auriculariales
- k_Fungi;p_Basidiomycota;c_Incertae_sedis;o_Malasseziales
- k_Fungi;p_Zygomycota;c_Incertae_sedis;o_Mortierellales
- k_Fungi;p_unidentified;c_unidentified;o_unidentified

Figure S2. The percentage contribution different microbial orders contribute to each category of sample. The QIIME level-4 OTU classifications (order level) were shown in figure. Numerical dataset were presented for bacterial and fungal communities (Table S1) corresponding to the percentage of bacterial and fungal communities. S: Rhizosphere; R: Roots; C: Corn; A: Arusha; K: Kilimanjaro; H: Asymptomatic; I: Symptomatic

Supplementary Tables

Table S1: Overview of abundant fungal order across 12 samples.

Legend	AIS.4	KIS.10	KIR.11	AIR.5	AHR.2	AHC.3	AHS.1	KHS.7	KHR.8	AIC.6	KIC.12	
Taxonomy	%	%	%	%	%	%	%	%	%	%	%	
k__Fungi;p__Ascomycota;c__Sordariomycetes;o__Hypocreales	2.60%	14.10%	12.90%	33.30%	22.80%	18.00%	13.00%	10.30%	10.60%	14.90%	11.90%	1.50%
k__Fungi;p__Basidiomycota;c__Agaricomycetes;o__Agaricales	60.20%	7.40%	2.60%	0.50%	0.70%	1.90%	1.20%	7.40%	3.90%	2.60%	3.00%	13.90%
k__Fungi;p__Ascomycota;c__Sordariomycetes;o__Incertae_sedis	2.70%	3.70%	0.70%	10.20%	18.40%	3.70%	10.80%	0.60%	1.20%	21.30%	12.00%	0.90%
k__Fungi;p__Ascomycota;c__Sordariomycetes;o__Incertae_sedis	1.80%	5.30%	10.60%	0.20%	5.30%	3.40%	2.90%	9.30%	12.60%	1.50%	0.40%	19.60%

ariomyce
tes;o__S
ordariale
s
k__Fung
i;p__Zyg
omycota;
c__Incer
tae_sedis
;o__Mor
tierellale
s
k__Fung
i;p__Asc
omycota;
c__Eurot
iomycete
s;o__Eur
otiales

0.10%	11.60%	15.50%	0.00%	0.30%	0.10%	0.80%	17.80%	8.30%	0.40%	6.40%	0.00%
2.00%	3.30%	3.00%	0.50%	0.90%	3.20%	1.60%	10.20%	4.80%	2.80%	4.10%	14.20%

Table S1: Overview of abundant bacterial order across 12 samples.

Taxonomy	KIS10	KHS7	AHS1	KIC12	AHR2	AIS4	KHR8	KIR11	KHC9	AHC3	AIR5	AIC6
	%	%	%	%	%	%	%	%	%	%	%	%
k__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhizobiales	9.00%	7.40%	6.00%	2.70%	7.20%	5.50%	9.70%	12.00%	5.90%	11.50%	11.80%	11.80%
k__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Xanthomonadales	2.00%	2.50%	3.00%	3.80%	6.20%	3.10%	8.00%	14.90%	2.70%	12.00%	10.60%	2.60%
k__Bacteria;p__Proteobacteria;c__Betaproteobacteria;o__Burkholderiales	1.10%	1.30%	2.70%	5.00%	5.70%	6.70%	12.70%	6.30%	10.10%	3.50%	6.90%	6.30%
k__Bacteria;p__Firmicutes;c__Clostridia;o__Clostridiales	0.30%	0.10%	0.10%	14.90%	2.80%	1.30%	10.10%	3.10%	14.20%	0.00%	4.20%	3.80%
k__Bacteria;p__Bacteroidetes;c__Bacteroidia;o__Bacteroidales	0.20%	0.00%	0.00%	35.40%	0.00%	0.80%	0.40%	7.40%	9.80%	0.00%	0.00%	0.50%
k__Bacteria;p__Actinobacteria;c__Actinobacteria;o__Actinomycetales	7.80%	6.60%	4.50%	11.30%	1.20%	1.70%	1.90%	2.70%	2.70%	3.70%	2.20%	1.60%
k__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Alteomonadales	0.00%	0.10%	0.10%	0.10%	17.20%	3.00%	4.50%	1.80%	0.80%	10.30%	2.40%	5.30%
k__Bacteria;p__Verrucomicrobia;c__[Spartobacteria];o__[Chthoniobacterales]	3.60%	2.60%	5.30%	0.70%	4.20%	1.80%	1.40%	6.00%	2.10%	8.30%	6.00%	2.70%
k__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Pseudomonadales	0.80%	0.40%	0.80%	5.60%	0.70%	2.10%	12.20%	8.70%	7.50%	0.40%	3.30%	1.40%
k__Bacteria;p__Acidobacteria;c__Acidobacteria-6;o__iii1-15	9.80%	9.80%	10.00%	0.10%	1.70%	3.60%	0.30%	0.30%	0.50%	0.80%	1.10%	2.20%

k__Bacteria;p__Bacteroidetes;c__Flavobacteriia;o__Flavobacteriales	0.10%	0.20%	0.60%	3.60%	3.20%	1.80%	5.50%	5.80%	3.10%	5.00%	7.10%	3.30%
k__Bacteria;p__Verrucomicrobia;c__Opitutae;o__Opitutaes	0.30%	0.40%	0.50%	0.60%	3.00%	7.60%	3.20%	0.50%	3.50%	6.50%	1.10%	7.70%
k__Bacteria;p__Bacteroidetes;c__[Saprospirae];o__[Saprospirales]	1.70%	2.40%	2.60%	0.60%	4.30%	4.70%	2.00%	1.00%	3.20%	3.10%	5.60%	2.20%
k__Bacteria;p__Bacteroidetes;c__Cytophagia;o__Cytophagales	0.70%	1.00%	1.60%	1.90%	4.10%	2.20%	3.40%	3.30%	1.40%	3.50%	2.50%	5.00%
k__Bacteria;p__Verrucomicrobia;c__Verrucomicrobiae;o__Verrucomicrobiales	0.20%	0.20%	0.60%	0.80%	5.10%	1.00%	2.60%	4.00%	1.70%	3.70%	4.00%	6.20%
k__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Sphingomonadales	1.30%	1.10%	1.60%	0.90%	4.80%	0.60%	2.40%	2.30%	1.40%	5.20%	3.90%	2.30%
k__Bacteria;p__Acidobacteria;c__[Chloracidobacteria];o__RB41	3.20%	3.60%	4.00%	0.10%	3.80%	1.10%	0.20%	0.30%	0.80%	2.30%	3.30%	1.70%
k__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhodospirillales	2.80%	2.30%	2.60%	0.60%	1.40%	2.10%	1.30%	1.60%	0.90%	0.90%	3.70%	2.20%
k__Bacteria;p__Bacteroidetes;c__Sphingobacteriia;o__Sphingobacteriales	0.20%	0.30%	0.50%	0.70%	1.00%	3.00%	5.10%	5.20%	0.90%	1.60%	1.50%	0.30%
k__Bacteria;p__Fibrobacteres;c__Fibrobacteria;o__258ds10	0.00%	0.00%	0.00%	0.00%	4.20%	2.90%	1.60%	0.50%	0.00%	7.00%	0.60%	3.60%
k__Bacteria;p__Proteobacteria;c__Betaproteobacteria;o__Rhodocyclales	0.00%	0.00%	0.40%	0.10%	1.10%	6.50%	0.40%	0.10%	3.30%	0.00%	1.30%	6.10%
k__Bacteria;p__Proteobacteria;c__Deltaproteobacteria;o__Myxococcales	2.40%	3.30%	2.70%	0.10%	0.40%	3.30%	1.00%	0.30%	0.20%	1.10%	0.80%	1.10%

k__Bacteria;p__Verrucomicrobia;c__[Pedosphaerae];o__[Pedosphaerales]	1.80%	1.70%	3.80%	0.00%	0.30%	6.30%	0.10%	0.10%	0.30%	0.10%	0.20%	2.30%
k__Bacteria;p__Actinobacteria;c__Thermoleophilia;o__Solirubrobacterales	4.80%	6.40%	2.10%	0.00%	0.10%	0.80%	0.10%	0.20%	0.10%	0.20%	0.40%	0.30%
k__Bacteria;p__Actinobacteria;c__Acidimicrobia;o__Acidimicrobiales	3.50%	2.90%	2.10%	0.10%	0.50%	0.50%	0.20%	0.80%	0.20%	0.90%	0.80%	0.90%
k__Bacteria;p__Actinobacteria;c__Thermoleophilia;o__Gaiellales	4.60%	4.70%	2.50%	0.00%	0.10%	0.80%	0.10%	0.10%	0.10%	0.10%	0.20%	0.30%
Unassigned;Other;Other;Other	0.60%	0.90%	0.60%	0.30%	1.60%	1.00%	0.60%	0.40%	0.40%	0.90%	1.10%	1.00%
k__Bacteria;p__Firmicutes;c__Bacilli;o__Bacillales	0.60%	0.50%	1.10%	1.40%	0.30%	0.30%	0.70%	0.40%	3.50%	0.30%	0.50%	0.40%
k__Bacteria;p__Gemmatimonadetes;c__Gemmatimonadetes;o__	2.30%	2.90%	1.40%	0.00%	0.00%	0.70%	0.00%	0.30%	0.00%	0.00%	0.10%	0.00%
k__Bacteria;p__Nitrospirae;c__Nitrospira;o__Nitrospirales	2.40%	2.10%	2.70%	0.00%	0.10%	1.00%	0.00%	0.00%	0.10%	0.00%	0.20%	0.20%
k__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhodobacterales	0.20%	0.40%	0.40%	0.40%	1.30%	0.30%	0.40%	0.40%	0.80%	0.80%	1.30%	1.20%
k__Bacteria;p__Planctomycetes;c__Planctomycetia;o__Pirellulales	0.70%	0.70%	1.00%	0.00%	0.50%	0.50%	0.40%	1.20%	0.10%	0.60%	1.10%	0.80%
k__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Enterobacteriales	0.20%	0.00%	0.00%	2.70%	0.90%	0.00%	0.00%	0.00%	3.10%	0.00%	0.30%	0.00%
k__Bacteria;p__Spirochaetes;c__Spirochaetes;o__Spirochaetales	0.00%	0.00%	0.00%	0.00%	0.00%	0.10%	0.00%	0.00%	6.90%	0.00%	0.00%	0.20%
k__Bacteria;p__Acidobacteria;c__Solibacteres;o__Solibacterales	1.20%	0.80%	1.40%	0.10%	0.30%	1.10%	0.10%	0.00%	0.30%	0.10%	0.20%	0.60%
k__Bacteria;p__Planctomycetes;c__Phycisphaerae;o__WD2101	1.00%	0.90%	1.10%	0.10%	0.40%	0.80%	0.10%	0.10%	0.30%	0.50%	0.40%	0.80%

k__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Caulobacteriales	0.10%	0.10%	0.00%	0.90%	1.00%	0.60%	0.60%	1.10%	0.30%	0.60%	0.30%	0.20%
k__Bacteria;p__Proteobacteria;c__Deltaproteobacteria;o__Syntrophobacteriales	1.70%	1.90%	1.70%	0.00%	0.00%	0.70%	0.00%	0.00%	0.10%	0.00%	0.10%	0.20%
k__Bacteria;p__Actinobacteria;c__MB-A2-108;o__0319-7L14	1.80%	1.60%	0.90%	0.00%	0.00%	0.20%	0.00%	0.00%	0.10%	0.00%	0.00%	0.10%
k__Bacteria;p__Chloroflexi;c__Chloroflexi;o__[Roseiflexales]	2.20%	1.40%	0.70%	0.00%	0.00%	0.40%	0.00%	0.00%	0.00%	0.00%	0.00%	0.10%
k__Bacteria;p__Chloroflexi;c__Ellin6529;o__	1.20%	1.30%	0.80%	0.00%	0.00%	0.40%	0.00%	0.10%	0.00%	0.10%	0.20%	0.30%
k__Bacteria;p__Gemmatimonadetes;c__Gemm-1;o__	0.90%	1.10%	1.20%	0.00%	0.20%	0.60%	0.00%	0.00%	0.10%	0.00%	0.10%	0.30%
k__Bacteria;p__Gemmatimonadetes;c__Gemm-3;o__	0.10%	0.20%	0.00%	0.00%	0.40%	0.00%	0.60%	1.00%	0.00%	0.80%	1.20%	0.20%
k__Bacteria;p__Proteobacteria;c__Betaproteobacteria;o__	0.90%	1.20%	0.70%	0.00%	0.50%	0.40%	0.00%	0.00%	0.30%	0.20%	0.20%	0.70%
k__Bacteria;p__Proteobacteria;c__Betaproteobacteria;o__Ellin6067	0.80%	1.30%	1.60%	0.00%	0.00%	0.70%	0.00%	0.00%	0.00%	0.00%	0.00%	0.10%
k__Bacteria;p__Proteobacteria;c__Betaproteobacteria;o__MND1	1.00%	1.60%	1.70%	0.00%	0.00%	0.70%	0.00%	0.00%	0.00%	0.00%	0.00%	0.10%
k__Bacteria;p__Proteobacteria;c__Betaproteobacteria;o__SC-I-84	1.40%	0.80%	1.40%	0.00%	0.10%	0.80%	0.00%	0.00%	0.00%	0.00%	0.10%	0.30%
k__Bacteria;p__Actinobacteria;c__Actinobacteria;o__Micrococcales	1.00%	1.80%	0.30%	0.00%	0.00%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Chloroflexi;c__Thermomicrobia;o__JG30-KF-CM45	0.60%	0.60%	0.30%	0.00%	0.20%	0.10%	0.20%	0.40%	0.10%	0.40%	0.30%	0.50%
k__Bacteria;p__Firmicutes;c__Erysipelotrichi;o__Erysipelotrichales	0.00%	0.00%	0.00%	1.10%	0.10%	0.00%	0.40%	0.20%	0.60%	0.00%	0.40%	0.30%

k__Bacteria;p__Planctomycetes;c__Planctomycetia;o__Gemmatales	0.80%	0.60%	0.80%	0.00%	0.10%	0.40%	0.00%	0.10%	0.10%	0.10%	0.30%	0.30%
k__Bacteria;p__Proteobacteria;c__Betaproteobacteria;o__Methylophilales	0.00%	0.00%	0.00%	0.10%	0.40%	0.40%	1.20%	0.10%	0.70%	0.00%	0.20%	0.50%
k__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__	0.00%	0.00%	0.10%	0.00%	0.40%	0.10%	0.80%	0.70%	0.00%	0.40%	0.50%	0.30%
k__Bacteria;p__Acidobacteria;c__Acidobacteria-6;o__CCU21	0.50%	0.60%	0.70%	0.00%	0.00%	0.60%	0.00%	0.00%	0.00%	0.00%	0.00%	0.10%
k__Bacteria;p__Acidobacteria;c__iii1-8;o__DS-18	0.60%	0.70%	0.80%	0.00%	0.00%	0.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Chloroflexi;c__Anaerolineae;o__Caldilineales	0.30%	0.30%	0.20%	0.00%	0.30%	0.20%	0.20%	0.30%	0.10%	0.30%	0.30%	0.50%
k__Bacteria;p__Chloroflexi;c__S085;o__	0.40%	0.30%	0.30%	0.00%	0.20%	0.10%	0.00%	0.00%	0.00%	0.10%	0.20%	0.20%
k__Bacteria;p__Chloroflexi;c__TK10;o__B07_WMSP1	0.90%	0.80%	0.50%	0.00%	0.00%	0.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Gemmatimonadetes;c__Gemmatimonadetes;o__Gemmatimonadales	0.60%	0.60%	0.30%	0.00%	0.20%	0.20%	0.10%	0.20%	0.10%	0.10%	0.20%	0.00%
k__Bacteria;p__Gemmatimonadetes;c__Gemmatimonadetes;o__N1423WL	0.40%	0.50%	0.60%	0.00%	0.10%	0.20%	0.00%	0.20%	0.10%	0.00%	0.10%	0.20%
k__Bacteria;p__Planctomycetes;c__Planctomycetia;o__Planctomycetales	0.20%	0.20%	0.20%	0.00%	0.20%	0.20%	0.10%	0.10%	0.10%	0.30%	0.40%	0.60%
k__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Ellin329	0.30%	0.30%	0.30%	0.00%	0.10%	0.60%	0.10%	0.10%	0.20%	0.10%	0.10%	0.10%
k__Bacteria;p__Proteobacteria;c__Betaproteobacteria;o__Neisseriales	0.00%	0.00%	0.40%	0.00%	0.00%	2.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

k__Bacteria;p__Proteobacteria;c__Deltaproteobacteria;o__Desulfuromonadales	0.00%	0.00%	0.00%	0.30%	0.00%	0.40%	0.30%	0.10%	1.00%	0.00%	0.00%	0.20%
k__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Thiotrichales	0.20%	0.30%	0.20%	0.00%	0.10%	0.20%	0.30%	0.10%	0.00%	0.10%	0.40%	0.30%
k__Bacteria;p__TM7;c__TM7-1;o__	0.30%	0.20%	0.20%	0.10%	0.20%	0.10%	0.20%	0.40%	0.10%	0.00%	0.10%	0.10%
k__Bacteria;p__WS3;c__PRR-12;o__Sediment-1	0.60%	0.50%	1.10%	0.00%	0.00%	0.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__AD3;c__ABS-6;o__	0.20%	0.00%	0.40%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Acidobacteria;c__Acidobacteria-5;o__	0.50%	0.20%	0.70%	0.00%	0.00%	0.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Acidobacteria;c__Acidobacteriia;o__Acidobacteriales	0.40%	0.20%	0.60%	0.00%	0.00%	0.30%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Acidobacteria;c__S035;o__	0.30%	0.20%	0.20%	0.00%	0.00%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Acidobacteria;c__[Chloracidobacteria];o__11-24	0.40%	0.30%	0.50%	0.00%	0.00%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Acidobacteria;c__[Chloracidobacteria];o__PK29	0.30%	0.30%	0.30%	0.00%	0.00%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Actinobacteria;c__Rubrobacteria;o__Rubrobacteriales	0.60%	0.80%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Armatimonadetes;c__Chthonomonadetes;o__SJA-22	0.30%	0.10%	0.50%	0.00%	0.00%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Armatimonadetes;c__[Fimbriimonadia];o__[Fimbriimonadales]	0.10%	0.00%	0.10%	0.00%	0.20%	0.10%	0.10%	0.00%	0.20%	0.00%	0.00%	0.00%

k__Bacteria;p__BRC1;c__PRR-11;o__	0.00%	0.10%	0.10%	0.00%	0.20%	0.10%	0.00%	0.00%	0.00%	0.20%	0.10%	0.10%
k__Bacteria;p__Chloroflexi;c__Anaerolineae;o__SBR1031	0.10%	0.20%	0.10%	0.00%	0.10%	0.20%	0.00%	0.00%	0.10%	0.20%	0.20%	0.20%
k__Bacteria;p__Chloroflexi;c__Anaerolineae;o__envOPS12	0.10%	0.20%	0.10%	0.00%	0.00%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Chloroflexi;c__TK10;o__AKYG885	0.30%	0.40%	0.40%	0.00%	0.00%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.10%
k__Bacteria;p__Firmicutes;c__AHT28;o__	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.70%	0.10%
k__Bacteria;p__Gemmatimonadetes;c__Gemm-2;o__	0.00%	0.10%	0.00%	0.00%	0.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.20%	0.20%
k__Bacteria;p__Gemmatimonadetes;c__Gemmatimonadetes;o__C114	0.30%	0.30%	0.40%	0.00%	0.00%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Gemmatimonadetes;c__Gemmatimonadetes;o__Ellin5290	0.40%	0.30%	0.20%	0.00%	0.00%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Gemmatimonadetes;c__Gemmatimonadetes;o__KD8-87	0.00%	0.10%	0.10%	0.00%	0.20%	0.10%	0.10%	0.00%	0.20%	0.00%	0.20%	0.60%
k__Bacteria;p__NKB19;c__TSBW08;o__	0.00%	0.00%	0.00%	0.00%	0.30%	0.00%	0.10%	0.20%	0.10%	0.00%	0.00%	0.10%
k__Bacteria;p__OD1;c__ZB2;o__	0.00%	0.00%	0.00%	0.00%	0.90%	0.00%	0.00%	0.00%	0.20%	0.00%	0.00%	0.10%
k__Bacteria;p__Planctomycetes;c__Phycisphaerae;o__Phycisphaerales	0.00%	0.00%	0.10%	0.00%	0.10%	0.00%	0.00%	0.10%	0.10%	0.10%	0.10%	0.10%
k__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rickettsiales	0.00%	0.00%	0.00%	0.00%	0.20%	0.10%	0.00%	0.00%	0.10%	0.00%	0.10%	0.10%
k__Bacteria;p__Proteobacteria;c__Betaproteobacteria;o__Nitrosomonadales	0.00%	0.00%	0.10%	0.00%	0.30%	0.00%	0.10%	0.10%	0.00%	0.10%	0.60%	0.10%

k__Archaea;p__Euryarchaeota;c__Methanomicrobia;o__Methanosarcinales	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Archaea;p__Euryarchaeota;c__Thermoplasmata;o__E2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Archaea;p__[Parvarchaeota];c__[Parvarchaea];o__WCHD3-30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Archaea;p__[Parvarchaeota];c__[Parvarchaea];o__YLA114	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__c__o__	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__AD3;c__JG37-AG-4;o__	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Acidobacteria;c__o__	0.00%	0.00%	0.20%	0.00%	0.00%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Acidobacteria;c__AT-s54;o__	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Acidobacteria;c__Acidobacteria-6;o__BPC015	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Acidobacteria;c__BPC102;o__	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Acidobacteria;c__BPC102;o__MVS-40	0.10%	0.10%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Acidobacteria;c__DA052;o__Ellin6513	0.00%	0.00%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Acidobacteria;c__EC1113;o__	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Acidobacteria;c__Holophagae;o__Holophagales	0.00%	0.00%	0.00%	0.00%	0.00%	0.40%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Acidobacteria;c__PAUC37f;o__	0.10%	0.10%	0.10%	0.00%	0.00%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__Acidobacteria;c__RB25;o__	0.00%	0.00%	0.10%	0.00%	0.00%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

k__Bacteria;p__WS6;c__o__	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__WS6;c__B142;o__	0.00%	0.00%	0.00%	0.00%	0.10%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__WS6;c__SC72;o__	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__[Caldithrix];c__KS B1;o__Ucn15732	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
k__Bacteria;p__[Thermi];c__Dein ococci;o__Deinococcales	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Table S2. Primers used in the study.

For 16S

Oligo Name	Oligo Sequence (5' to 3')	Length of primer (nucleotide unit, n)	Product size (approx.)
Prokaryote V3-Forward	CCTACGGGNBGCASCAG	17	~ 460 bps
Prokaryote V4-Reverse	GACTACNVGGGTATCTAATCC	21	

For ITS2

Oligo Name	Oligo Sequence (5' to 3')	Length of primer (nucleotide unit, n)	Product size (approx.)
ITS2-Forward	GCATCGATGAAGAACGCAGC	20	~ 350 bps
ITS2-Reverse	TCCTCCGCTTATTGATATGC	20	

Table S3. Identified bacterial genera Bacterial genera described as plant-growth promoters were searched on Web of Science (<http://www.webofknowledge.com>).

Genus	Growth-promoting attribute	Isolated from (organ)	References
<i>Achromobacter</i>	-	-	-
<i>Acidovorax</i>	-	-	-
<i>Acinetobacter</i>	-	-	-
<i>Actinomadura</i>	-	-	-
<i>Actinoplanes</i>	-	-	-
<i>Adhaeribacter</i>	-	-	-
<i>Aeromicrobium</i>	-	-	-
<i>Agrobacterium</i>	-	-	-
<i>Agromyces</i>	-	-	-
<i>Alishewanella</i>	-	-	-
<i>Alkaliphilus</i>	-	-	-
<i>Amaricoccus</i>	-	-	-
<i>Aminobacter</i>	-	-	-
<i>Anaeromyxobacter</i>	-	-	-
<i>Arenimonas</i>	-	-	-
<i>Arthrospira</i>	-	-	-
<i>Azospirillum</i>	-	-	-
<i>Azospirillum</i>	N-fixing	Roots	Molina et al., 2018
<i>Bacillus</i>	IAA production	Roots	Yuan et al., 2018
<i>Balneimonas</i>	-	-	-
<i>Bdellovibrio</i>	-	-	-
<i>Bosea</i>	-	-	-
<i>Bradyrhizobium</i>	N-fixing	Roots	Ulzen et al., 2018
<i>Brevundimonas</i>	-	-	-
<i>Burkholderia</i>	-	-	-
<i>Campylobacter</i>	-	-	-
<i>Candidatus</i>	-	-	-
<i>Koribacter</i>	-	-	-
<i>Candidatus</i>	-	-	-
<i>Nitrososphaera</i>	-	-	-
<i>Candidatus</i>	-	-	-
<i>Solibacter</i>	-	-	-
<i>Candidatus</i>	-	-	-
<i>Xiphinematobacter</i>	-	-	-
<i>Caulobacter</i>	-	-	-
<i>Cellulomonas</i>	-	-	-
<i>Cellvibrio</i>	-	-	-
<i>Chelatococcus</i>	-	-	-
<i>Chitinophaga</i>	-	-	-
<i>Chthoniobacter</i>	-	-	-
<i>Citricoccus</i>	-	-	-
<i>Clostridium</i>	-	-	-
<i>Coprococcus</i>	-	-	-
<i>Couchioplanes</i>	-	-	-
<i>Cryocola</i>	-	-	-
<i>Cupriavidus</i>	-	-	-

<i>Dactylosporangium</i>	Antibiotic production	Roots	Fan et al., 2018
<i>Delftia</i>	-	-	-
<i>Demequina</i>	-	-	-
<i>Devosia</i>	-	-	-
<i>Dokdonella</i>	-	-	-
<i>Dyadobacter</i>	N-fixing	Plant	Kumar et al., 2018
<i>Enterobacter</i>	-	-	-
<i>Fimbriimonas</i>	-	-	-
<i>Flaviumibacter</i>	-	-	-
<i>Flavisolibacter</i>	-	-	-
<i>Flavobacterium</i>	-	-	-
<i>Gemmata</i>	-	-	-
<i>Gemmatimonas</i>	-	-	-
<i>Geodermatophilus</i>	-	-	-
<i>Gordonia</i>	-	-	-
<i>Hydrogenophaga</i>	-	-	-
<i>Hylemonella</i>	-	-	-
<i>Hyphomicrobium</i>	-	-	-
<i>Iamia</i>	N-fixing	Roots	Yu et al., 2016
<i>Kaistia</i>	-	-	-
<i>Kaistobacter</i>	-	-	-
<i>Knoellia</i>	-	-	-
<i>Kribbella</i>	-	-	-
<i>Labrys</i>	-	-	-
<i>Lactobacillus</i>	-	-	-
<i>Leptothrix</i>	-	-	-
<i>Limnohabitans</i>	-	-	-
<i>Luteimonas</i>	IAA	Plant	Zhao et al., 2018
<i>Luteolibacter</i>	-	-	-
<i>Mesorhizobium</i>	N-fixing	Roots	Zhang et al., 2018
<i>Methylibium</i>	-	-	-
<i>Methylobacterium</i>	-	-	-
<i>Methylosinus</i>	-	-	-
<i>Methylotenera</i>	-	-	-
<i>Microbacterium</i>	-	-	-
<i>Mycobacterium</i>	-	-	-
<i>Mycoplana</i>	-	-	-
<i>Nitriliruptor</i>	-	-	-
<i>Nitrospira</i>	-	-	-
<i>Nocardia</i>	-	-	-
<i>Nocardioides</i>	-	-	-
<i>Nonomuraea</i>	Antibiotic production	Plant	Zheng et al., 2018
<i>Novosphingobium</i>	-	-	-
<i>Opitutus</i>	-	-	-
<i>Paenibacillus</i>	N-fixing	Plant	Wang et al., 2018
<i>Paracoccus</i>	-	-	-
<i>Pedobacter</i>	-	-	-
<i>Pedomicrobium</i>	-	-	-
<i>Phaeospirillum</i>	-	-	-
<i>Phenylobacterium</i>	-	-	-
<i>Phycococcus</i>	-	-	-

<i>Phyllobacterium</i>	N-fixing	Roots	Safronova et al., 2018
<i>Phytohabitans</i>	Antibiotic production	Plant	Qin et al., 2015
<i>Pilimelia</i>	-	-	-
<i>Pimelobacter</i>	-	-	-
<i>Pirellula</i>	-	-	-
<i>Planctomyces</i>	-	-	-
<i>Pleomorphomonas</i>	-	-	-
<i>Polaromonas</i>	-	-	-
<i>Pontibacter</i>	-	-	-
<i>Promicromonospora</i>	-	-	-
<i>Pseudomonas</i>	IAA	Roots	Kavino et al., 2018
<i>Pseudonocardia</i>	-	-	-
<i>Pseudoxanthomonas</i>	-	-	-
<i>Ramlibacter</i>	-	-	-
<i>Rhizobium</i>	N-fixing	Roots	Yuan et al., 2018
<i>Rhodobacter</i>	-	-	-
<i>Rhodococcus</i>	-	-	-
<i>Rhodoplanes</i>	-	-	-
<i>Rubrobacter</i>	-	-	-
<i>Shinella</i>	-	-	-
<i>Skermanella</i>	-	-	-
<i>Solirubrobacter</i>	-	-	-
<i>Sphingobium</i>	-	-	-
<i>Sphingomonas</i>	-	-	-
<i>Sphingopyxis</i>	-	-	-
<i>Sporomusa</i>	-	-	-
<i>Sporosarcina</i>	-	-	-
<i>Steroidobacter</i>	-	-	-
<i>Streptacidiphilus</i>	-	-	-
<i>Streptomyces</i>	-	-	-
<i>Streptosporangium</i>	-	-	-
<i>Terracoccus</i>	-	-	-
<i>Terrimonas</i>	-	-	-
<i>Thermomonas</i>	-	-	-
<i>Variovorax</i>	IAA	Plant	Zhou et al., 2017
<i>Virgisporangium</i>	-	-	-

Table S4. Identified fungal genera. Fungal genera described as plant-growth promoters were searched on Web of Science (<http://www.webofknowledge.com>).

Genus	Growth-promoting attribute	Isolated from (organ)	References
<i>Acremonium</i>	Biocontrol	Plant	Nandhini et al., 2018
<i>Acrostalagmus</i>	-	-	-
<i>Agaricus</i>	-	-	-
<i>Alternaria</i>	-	-	-
<i>Aspergillus</i>	Antioxidant	Roots	Giorni et al., 2007
<i>Auricularia</i>	-	-	-
<i>Botryosphaeria</i>	-	-	-
<i>Ceratocystis</i>	-	-	-
<i>Clitopilus</i>	-	-	-
<i>Cordyceps</i>	-	-	-
<i>Cosmospora</i>	-	-	-
<i>Cylindrocarpon</i>	-	-	-
<i>Cyphellophora</i>	-	-	-
<i>Echinoderma</i>	-	-	-
<i>Emericella</i>	-	-	-
<i>Eurotium</i>	-	-	-
<i>Exophiala</i>	-	-	-
<i>Fusarium</i>	-	-	-
<i>Gibberella</i>	-	-	-
<i>Gymnopilus</i>	-	-	-
<i>Haematonectria</i>	-	-	-
<i>Humicola</i>	-	-	-
<i>Leucoagaricus</i>	-	-	-
<i>Marasmius</i>	-	-	-
<i>Mortierella</i>	-	-	-
<i>Myrothecium</i>	-	-	-
<i>Neosartorya</i>	-	-	-
<i>Penicillium</i>	-	-	-
<i>Phialophora</i>	-	-	-
<i>Phoma</i>	-	-	-
<i>Plectosphaerella</i>	-	-	-
<i>Schizophyllum</i>	-	-	-
<i>Septoria</i>	-	-	-
<i>Setosphaeria</i>	-	-	-
<i>Termitomyces</i>	Bioactive compounds	Plant	Hsieh and Ju 2018
<i>Trichoderma</i>	Biocontrol	Roots	Sangeetha et al., 2009
<i>Xeromyces</i>	-	-	-
	-	-	-