Supplementary Materials:

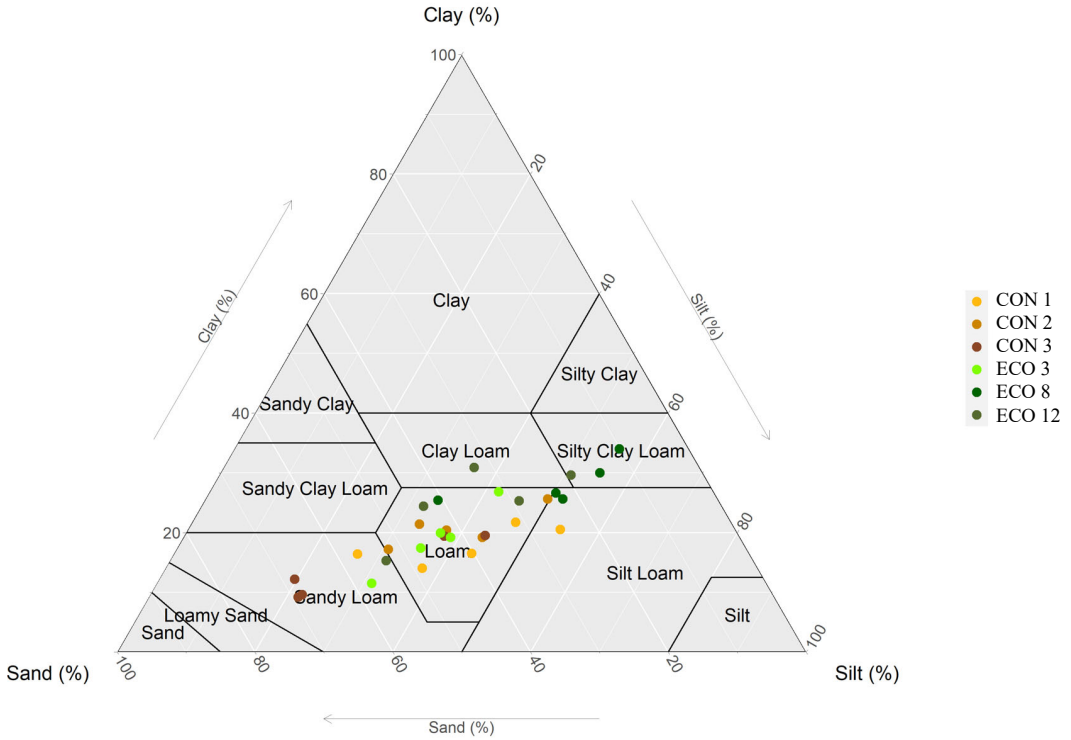


Figure S1 : Subsurface soil texture triangle with samples from organic (ECO) and conventional (CON) managed vineyards.

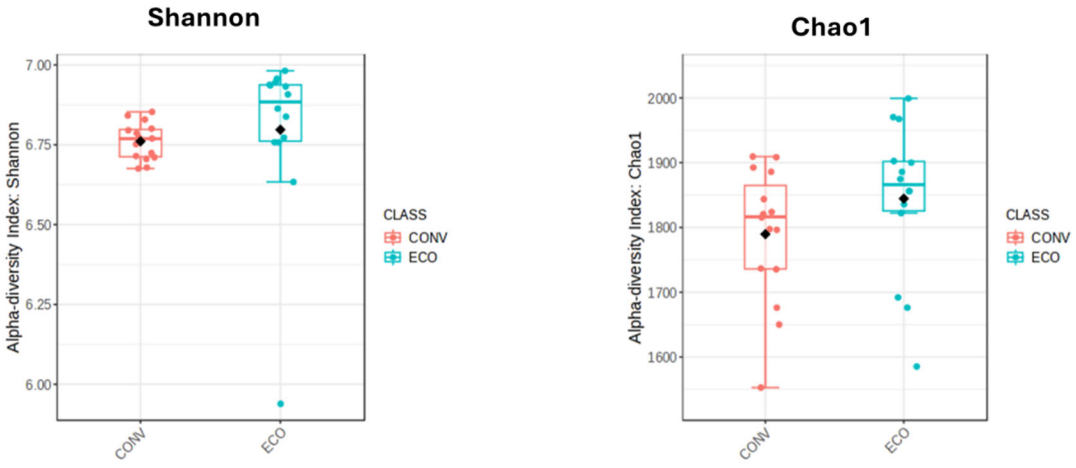


Figure S2: Boxplots of alpha diversity indexes (Shannon and Chao1) from subsurface soil bacterial diversity

Table S1 Distribution of classes (38) in soil samples, sorted by relative abundance (%). p-value<0.05 show classes differentially abundant between organic (ECO) and conventional (CON) managements according to the Wilcoxon-FDR test.

Classes	CON (RA in %)	ECO (RA in %)	p-value (MW test)	FDR
Actinobacteria	26.42	23.03	0.1437	0.3412
α-Proteobacteria	18.89	21.99	0.0825	0.2240
Acidobacteriia	12.05	12.1	0.9021	0.9344
Gemmatimonadetes	*6.43*	*4.13*	0.0006	**0.0074** **
B-Proteobacteria	4.94	4.86	0.6942	0.8244
Thermoleophilia	*3.8*	*2.99*	0.0066	**0.0315** *
γ-Proteobacteria	*3.73*	*4.53*	0.0020	**0.0186** *
δ-Proteobacteria	3.09	3.09	0.8134	0.8831
Acidimicrobiia	2.38	2.67	0.8033	0.8831
Cytophagia	1.91	2.61	0.0299	0.1085
Chitinophagia	1.83	2.16	0.3787	0.6015
Holophagae	1.77	1.97	0.5148	0.6986
Anaerolineae	1.61	1.52	0.4806	0.6765
Rubrobacteria	*1.39*	*0.82*	0.0033	**0.0250** *
Planctomycetia	1.25	1.16	0.6314	0.7740
Chloroflexia	0.97	1.16	0.2318	0.4593
Nitrospira	0.95	0.8	0.0916	0.2321
Verrucomicrobiae	0.78	0.97	0.2283	0.4593
Dehalococcoidia	0.74	0.73	0.9881	0.9881
Opitutae	0.65	0.85	0.0314	0.1085
Phycisphaerae	*0.62*	*0.85*	0.0065	**0.0315** *
Sphingobacteriia	0.57	0.49	0.5922	0.7740
Blastocatellia	0.42	0.46	0.6154	0.7740
Bacilli	*0.42*	*0.2*	<0.000001	**< 0.00001** ***
Cyanobacteria	*0.37*	*1.94*	0.0003	**0.0054** **
Clostridia	0.37	0.32	0.4088	0.6213
Thermomicrobia	*0.35*	*0.22*	0.0059	**0.0315** *
Spartobacteria	0.28	0.18	0.3799	0.6015
Caldilineae	0.27	0.37	0.2003	0.4478
Flavobacteriia	*0.18*	*0.32*	0.0091	**0.0385** *
Deinococci	0.12	0.14	0.7404	0.8526
Negativicutes	0.11	0.06	0.0747	0.2183
Synergistia	0.1	0.08	0.2417	0.4593
Saprospiria	0.09	0.1	0.3414	0.6015
Candidatus_tectomicrobia	0.07	0.02	0.0507	0.1604
Nitriliruptoria	0.05	0.08	0.3637	0.6015
Ignavibacteria	0.01	0.02	0.9098	0.9344
Fimbriimonadia	0	0.01	0.4631	0.67646

Table S2: List of 50 most predominant ASVs sorted by Relative abundance in CON and ECO management strategies in the soil of vineyards. Red typed ASVs represent Shared ASVs between both strategies

CON

ASV	Phylum (RDP)	Class (RDP)	Family (RDP)	*RDP (genus)*	*GG (genus)*	RA (%) CON	Desv_RA (%) CON	RA (%) ECO	Desv_RA (%) ECO	CON+ECO	DESV CON+ECO
ASV1	Actinobacteria	Actinobacteria	Micrococcaceae	*Pseudarthrobacter*	*g__Arthrobacter*	2.046%	0.771%	1.406%	0.612%	1.737%	0.760%
ASV2	Actinobacteria	Actinobacteria	Micrococcaceae	*Pseudarthrobacter*	*g__Arthrobacter*	1.970%	0.894%	1.174%	0.593%	1.586%	0.852%
ASV6	Proteobacteria	Alphaproteobacteria	Rhodospirillaceae	*Rhodospirillaceae (unclassified)*	*g__Dongia*	0.467%	0.231%	0.792%	0.344%	0.624%	0.331%
ASV1572	Proteobacteria	Gammaproteobacteria	Pseudomonadaceae	*Pseudomonas*	*g__Pseudomonas*	0.055%	0.210%	0.001%	0.003%	0.029%	0.151%
ASV19	Acidobacteria	Acidobacteria_Gp4	Unclassified	*Acidobacteria_Gp4*	*g__Acidobacterium*	0.393%	0.261%	0.344%	0.234%	0.370%	0.245%
ASV13	Proteobacteria	Alphaproteobacteria	Azospirillaceae	*Skermanella*	*g__Skermanella*	0.464%	0.176%	0.464%	0.298%	0.464%	0.238%
ASV28	Actinobacteria	Unclassified	Unclassified	*Actinobacteria (unclasssfied)*	*g__Actinomadura*	0.298%	0.131%	0.196%	0.166%	0.249%	0.155%
ASV35	Acidobacteria	Acidobacteria_Gp4	Unclassified	*Acidobacteria_Gp4*	*g__Acidobacterium*	0.276%	0.155%	0.126%	0.075%	0.204%	0.143%
ASV123	Bacteroidetes	Chitinophagia	Chitinophagaceae	*Chitinophagaceae (unclasssfied)*	*g__Sphingobacterium*	0.123%	0.129%	0.042%	0.047%	0.084%	0.105%
ASV24	Nitrospirae	Nitrospira	Nitrospiraceae	*Nitrospira*	*g__Nitrospira*	0.264%	0.126%	0.176%	0.085%	0.221%	0.115%
ASV26	Actinobacteria	Actinobacteria	Geodermatophilaceae	*Blastococcus*	*g__Blastococcus*	0.303%	0.139%	0.159%	0.059%	0.233%	0.129%
ASV14	Gemmatimonadetes	Unclassified	Unclassified	*Gemmatimonadetes (unlcassified)*	*g__Gemmatimonas*	0.477%	0.492%	0.133%	0.126%	0.311%	0.399%
ASV56	Proteobacteria	Betaproteobacteria	Unclassified	*Nitrosomonadales*	*g__Nitrosospira*	0.212%	0.170%	0.176%	0.142%	0.195%	0.155%
ASV27	Acidobacteria	Acidobacteria_Gp4	Unclassified	*Acidobacteria_Gp4*	*g__Acidobacterium*	0.377%	0.200%	0.161%	0.141%	0.273%	0.203%
ASV118	Proteobacteria	Betaproteobacteria	Unclassified	*Betaproteobacteria*	*g__Acidobacterium*	0.146%	0.104%	0.063%	0.061%	0.106%	0.095%
ASV21	Gemmatimonadetes	Unclassified	Unclassified	*Gemmatimonadetes (unlcassified)*	*g__Gemmatimonas*	0.255%	0.077%	0.223%	0.085%	0.239%	0.081%
ASV22	Proteobacteria	Alphaproteobacteria	Methylobacteriaceae	*Microvirga*	*g__Microvirga*	0.273%	0.098%	0.285%	0.195%	0.279%	0.150%
ASV47	Actinobacteria	Actinobacteria	Micromonosporaceae	*Micromonosporaceae*	*g__Actinoplanes*	0.243%	0.165%	0.248%	0.175%	0.245%	0.167%
ASV17	Proteobacteria	Alphaproteobacteria	Sphingomonadaceae	*Sphingomonas*	*g__Sphingomonas*	0.389%	0.188%	0.403%	0.188%	0.396%	0.185%
ASV30	Actinobacteria	Actinobacteria	Geodermatophilaceae	*Blastococcus*	*g__Blastococcus*	0.327%	0.095%	0.163%	0.043%	0.248%	0.111%
ASV109	Acidobacteria	Acidobacteria_Gp16	Unclassified	*Acidobacteria_Gp16*	*g__Longilinea*	0.139%	0.105%	0.087%	0.058%	0.114%	0.088%
ASV145	Proteobacteria	Alphaproteobacteria	Unclassified	*Alphaproteobacteria*	*g__Methylosinus*	0.116%	0.081%	0.062%	0.052%	0.090%	0.073%

ASV9	Proteobacteria	Alphaproteobacteria	Bradyrhizobiaceae	*Bradyrhizobium*	*g__Bradyrhizobium*	0.386%	0.238%	0.586%	0.181%	0.482%	0.232%
ASV557	Proteobacteria	Alphaproteobacteria	Unclassified	*Rhizobiales*	*g__Rhodoplanes*	0.071%	0.069%	0.072%	0.033%	0.072%	0.053%
ASV78	Actinobacteria	Unclassified	Unclassified	*Actinobacteria*	*g__Blastococcus*	0.208%	0.093%	0.080%	0.098%	0.146%	0.114%
ASV181	Actinobacteria	Actinobacteria	Micrococcaceae	*Pseudarthrobacter*	*g__Arthrobacter*	0.192%	0.061%	0.139%	0.079%	0.166%	0.074%
ASV15	Proteobacteria	Alphaproteobacteria	Azospirillaceae	*Skermanella*	*g__Skermanella*	0.316%	0.154%	0.305%	0.165%	0.311%	0.157%
ASV367	Actinobacteria	Thermoleophilia	Gaiellaceae	*Gaiella*	*g__Solirubrobacter*	0.110%	0.076%	0.019%	0.018%	0.066%	0.072%
ASV986	Actinobacteria	Actinobacteria	Micromonosporaceae	*Actinoplanes*	*g__Actinoplanes*	0.075%	0.075%	0.060%	0.067%	0.068%	0.071%
ASV4	Cyanobacteria	Cyanobacteria	Unclassified	*Cyanobacteria*	*g__Microcoleus*	0.205%	0.381%	0.753%	1.693%	0.469%	1.217%
ASV8	Proteobacteria	Alphaproteobacteria	Azospirillaceae	*Skermanella*	*g__Skermanella*	0.393%	0.135%	0.400%	0.248%	0.396%	0.194%
ASV12	Acidobacteria	Blastocatellia	Blastocatellaceae	*Stenotrophobacter*	*g__Acidobacterium*	0.282%	0.144%	0.335%	0.219%	0.307%	0.183%
ASV39	Actinobacteria	Actinobacteria	Promicromonosporaceae	*Promicromonospora*	*g__Promicromonospora*	0.341%	0.754%	0.210%	0.110%	0.278%	0.543%
ASV182	Bacteroidetes	Cytophagia	Fulvivirgaceae	*Chryseolinea*	*g__Algoriphagus*	0.059%	0.062%	0.061%	0.053%	0.060%	0.057%
ASV250	Proteobacteria	Alphaproteobacteria	Hyphomicrobiaceae	*Pedomicrobium*	*g__Pedomicrobium*	0.096%	0.068%	0.066%	0.040%	0.081%	0.057%
ASV29	Proteobacteria	Gammaproteobacteria	Steroidobacteraceae	*Steroidobacteraceae*	*g__Steroidobacter*	0.165%	0.051%	0.202%	0.123%	0.183%	0.093%
ASV36	Acidobacteria	Acidobacteria_Gp6	Unclassified	*Acidobacteria_Gp6*	*g__Acidobacterium*	0.200%	0.110%	0.284%	0.147%	0.241%	0.134%
ASV73	Proteobacteria	Deltaproteobacteria	Unclassified	*Deltaproteobacteria*	*g__Geobacter*	0.163%	0.077%	0.082%	0.054%	0.124%	0.077%
ASV2536	Bacteroidetes	Cytophagia	Fulvivirgaceae	*Chryseolinea*	*g__Ohtaekwangia*	0.109%	0.089%	0.254%	0.166%	0.179%	0.149%
ASV16	Proteobacteria	Alphaproteobacteria	Rhodospirillaceae	*Dongia*	*g__Dongia*	0.208%	0.131%	0.344%	0.218%	0.274%	0.188%
ASV116	Acidobacteria	Acidobacteria_Gp6	Unclassified	*Acidobacteria_Gp6*	*g__Acidobacterium*	0.133%	0.059%	0.141%	0.082%	0.137%	0.070%
ASV319	Actinobacteria	Unclassified	Unclassified	*Actinobacteria*	*g__Actinomadura*	0.118%	0.077%	0.041%	0.041%	0.081%	0.072%
ASV410	Proteobacteria	Alphaproteobacteria	Unclassified	*Rhodospirillales*	*g__Dongia*	0.104%	0.058%	0.153%	0.047%	0.128%	0.058%
ASV3	Actinobacteria	Actinobacteria	Micromonosporaceae	*Micromonosporaceae*	*g__Dactylosporangium*	0.210%	0.158%	0.476%	0.294%	0.339%	0.267%
ASV34	Proteobacteria	Alphaproteobacteria	Azospirillaceae	*Skermanella*	*g__Skermanella*	0.242%	0.099%	0.187%	0.117%	0.215%	0.110%
ASV126	Proteobacteria	Gammaproteobacteria	Steroidobacteraceae	*Steroidobacteraceae*	*g__Steroidobacter*	0.112%	0.082%	0.086%	0.058%	0.100%	0.071%
ASV221	Proteobacteria	Betaproteobacteria	Unclassified	*Betaproteobacteria*	*g__Burkholderia*	0.071%	0.047%	0.059%	0.027%	0.065%	0.038%
ASV283	Actinobacteria	Actinobacteria	Micrococcaceae	*Pseudarthrobacter*	*g__Arthrobacter*	0.128%	0.044%	0.089%	0.033%	0.109%	0.043%
ASV827	Acidobacteria	Acidobacteria_Gp6	Unclassified	*Acidobacteria_Gp6*	*g__Actinomyces*	0.036%	0.055%	0.018%	0.022%	0.027%	0.043%
ASV2701	Bacteroidetes	Cytophagia	Fulvivirgaceae	*Ohtaekwangia*	*g__Flexibacter*	0.022%	0.052%	0.007%	0.010%	0.015%	0.038%

ECO						RA (%) ECO	Desv_RA (%) ECO	RA (%) CON	Desv_RA (%) CON	CON+ECO	DESV_CON+ECO
ASV1	Actinobacteria	Actinobacteria	Micrococcaceae	*Pseudarthrobacter*	*g__Arthrobacter*	2.046%	0.771%	1.406%	0.612%	1.737%	0.760%
ASV2	Actinobacteria	Actinobacteria	Micrococcaceae	*Pseudarthrobacter*	*g__Arthrobacter*	1.970%	0.894%	1.174%	0.593%	1.586%	0.852%
ASV4	Cyanobacteria/Chloroplast	Cyanobacteria	Unclassified	*Cyanobacteria*	*g__Microcoleus*	0.205%	0.381%	0.753%	1.693%	0.469%	1.217%
ASV20	Proteobacteria	Alphaproteobacteria	Azospirillaceae	*Skermanella*	*g__Skermanella*	0.219%	0.143%	0.406%	0.318%	0.309%	0.257%
ASV13	Proteobacteria	Alphaproteobacteria	Azospirillaceae	*Skermanella*	*g__Skermanella*	0.464%	0.176%	0.464%	0.298%	0.464%	0.238%
ASV22	Proteobacteria	Alphaproteobacteria	Methylobacteriaceae	*Microvirga*	*g__Microvirga*	0.273%	0.098%	0.285%	0.195%	0.279%	0.150%
ASV222	Cyanobacteria/Chloroplast	Cyanobacteria	Unclassified	*Cyanobacteria*	*g__Microcoleus*	0.052%	0.096%	0.178%	0.345%	0.113%	0.253%
ASV96	Actinobacteria	Actinobacteria	Micromonosporaceae	*Virgisporangium*	*g__Virgisporangium*	0.106%	0.145%	0.136%	0.122%	0.121%	0.133%
ASV8	Proteobacteria	Alphaproteobacteria	Azospirillaceae	*Skermanella*	*g__Skermanella*	0.393%	0.135%	0.400%	0.248%	0.396%	0.194%
ASV63	Actinobacteria	Actinobacteria	Streptomycetaceae	*Streptomyces*	*g__Streptomyces*	0.230%	0.092%	0.262%	0.097%	0.245%	0.094%
ASV3	Actinobacteria	Actinobacteria	Micromonosporaceae	*Micromonosporaceae*	*g__Dactylosporangium*	0.210%	0.158%	0.476%	0.294%	0.339%	0.267%
ASV45	Bacteroidetes	Cytophagia	Fulvivirgaceae	*Fulvivirgaceae*	*g__Algoriphagus*	0.073%	0.057%	0.199%	0.155%	0.134%	0.130%
ASV9	Proteobacteria	Alphaproteobacteria	Bradyrhizobiaceae	*Bradyrhizobium*	*g__Bradyrhizobium*	0.386%	0.238%	0.586%	0.181%	0.482%	0.232%
ASV106	Actinobacteria	Actinobacteria	Nocardioidaceae	*Nocardioides*	*g__Nnocardioides*	0.154%	0.179%	0.169%	0.100%	0.161%	0.144%
ASV47	Actinobacteria	Actinobacteria	Micromonosporaceae	*Actinoplanes*	*g__Actinoplanes*	0.243%	0.165%	0.248%	0.175%	0.245%	0.167%
ASV2536	Bacteroidetes	Cytophagia	Fulvivirgaceae	*Chryseolinea*	*g__Ohtaekwangia*	0.109%	0.089%	0.254%	0.166%	0.179%	0.149%
ASV39	Actinobacteria	Actinobacteria	Promicromonosporaceae	*Promicromonospora*	*g__Promicromonospora*	0.341%	0.754%	0.210%	0.110%	0.278%	0.543%
ASV158	Actinobacteria	Actinobacteria	Mycobacteriaceae	*Mycobacterium*	*g__Mycobacterium*	0.117%	0.057%	0.159%	0.096%	0.138%	0.080%
ASV129	Proteobacteria	Alphaproteobacteria	Sphingomonadaceae	*Sphingomonas*	*g__Sphingomonas*	0.047%	0.042%	0.123%	0.117%	0.084%	0.093%
ASV6	Proteobacteria	Alphaproteobacteria	Rhodospirillaceae	*Rhodospirillaceae*	*g__Dongia*	0.467%	0.231%	0.792%	0.344%	0.624%	0.331%
ASV35	Acidobacteria	Acidobacteria_Gp4		*Acidobacteria_Gp4*	*g__Acidobacterium*	0.276%	0.155%	0.126%	0.075%	0.204%	0.143%
ASV15	Proteobacteria	Alphaproteobacteria	Azospirillaceae	*Skermanella*	*g__Skermanella*	0.316%	0.154%	0.305%	0.165%	0.311%	0.157%
ASV93	Proteobacteria	Alphaproteobacteria	Methylobacteriaceae	*Microvirga*	*g__Microvirga*	0.121%	0.045%	0.161%	0.082%	0.140%	0.067%
ASV1480	Actinobacteria	Actinobacteria	Streptomycetaceae	*Streptomyces*	*g__Streptomyces*	0.033%	0.032%	0.065%	0.079%	0.049%	0.061%
ASV43	Proteobacteria	Alphaproteobacteria	Sphingomonadaceae	*Sphingomonas*	*g__Kaistobacter*	0.156%	0.117%	0.276%	0.191%	0.214%	0.166%

ASV995	Actinobacteria	Actinobacteria	Unclassified	*Actinobacteria*	*g__Sporichthya*	0.054%	0.023%	0.084%	0.066%	0.068%	0.050%
ASV12	Acidobacteria	Blastocatellia	Blastocatellaceae	*Stenotrophobacter*	*g__Acidobacterium*	0.282%	0.144%	0.335%	0.219%	0.307%	0.183%
ASV108	Acidobacteria	Acidobacteria_Gp6	Unclassified	*Acidobacteria_Gp6*	*g__Acidobacterium*	0.123%	0.064%	0.151%	0.072%	0.136%	0.068%
ASV427	Actinobacteria	Actinobacteria	Micromonosporaceae	*Actinoplanes*	*g__Actinoplanes*	0.014%	0.019%	0.085%	0.129%	0.048%	0.096%
ASV19	Acidobacteria	Acidobacteria_Gp4	Unclassified	*Acidobacteria_Gp4*	*g__Acidobacterium*	0.393%	0.261%	0.344%	0.234%	0.370%	0.245%
ASV50	Proteobacteria	Alphaproteobacteria	Azospirillaceae	*Skermanella*	*g__Skermanella*	0.169%	0.081%	0.148%	0.134%	0.159%	0.109%
ASV181	Actinobacteria	Actinobacteria	Micrococcaceae	*Pseudarthrobacter*	*g__Arthrobacter*	0.192%	0.061%	0.139%	0.079%	0.166%	0.074%
ASV32	Proteobacteria	Betaproteobacteria	Unclassified	*Betaproteobacteria*	*g__Cupriavidus*	0.169%	0.061%	0.242%	0.107%	0.204%	0.092%
ASV17	Proteobacteria	Alphaproteobacteria	Sphingomonadaceae	*Sphingomonas*	*g__Sphingomonas*	0.389%	0.188%	0.403%	0.188%	0.396%	0.185%
ASV48	Proteobacteria	Alphaproteobacteria	Azospirillaceae	*Skermanella*	*g__Skermanella*	0.152%	0.070%	0.172%	0.139%	0.162%	0.107%
ASV25	Proteobacteria	Alphaproteobacteria	Azospirillaceae	*Skermanella*	*g__Skermanella*	0.229%	0.147%	0.177%	0.090%	0.204%	0.123%
ASV21	Gemmatimonadetes	Unclassified	Unclassified	*Gemmatimonadetes*	*g__Gemmatimonas*	0.255%	0.077%	0.223%	0.085%	0.239%	0.081%
ASV52	Bacteroidetes	Cytophagia	Fulvivirgaceae	*Ohtaekwangia*	*g__Ohtaekwangia*	0.093%	0.070%	0.187%	0.096%	0.138%	0.095%
ASV85	Actinobacteria	Actinobacteria	Mycobacteriaceae	*Mycobacterium*	*g__Mycobacterium*	0.120%	0.054%	0.219%	0.063%	0.168%	0.076%
ASV119	Actinobacteria	Actinobacteria	Geodermatophilaceae	*Blastococcus*	*g__Blastococcus*	0.119%	0.060%	0.124%	0.062%	0.121%	0.060%
ASV377	Actinobacteria	Actinobacteria	Mycobacteriaceae	*Mycobacterium*	*g__Mycobacterium*	0.039%	0.021%	0.060%	0.057%	0.049%	0.043%
ASV239	Proteobacteria	Deltaproteobacteria	Cystobacterineae	*Archangium*	*g__Archangium*	0.070%	0.056%	0.075%	0.067%	0.072%	0.061%
ASV479	Actinobacteria	Actinobacteria	Pseudonocardiaceae	*Actinophytocola*	*g__Pseudonocardia*	0.078%	0.037%	0.105%	0.065%	0.091%	0.053%
ASV368	Verrucomicrobia	Opitutae	Opitutaceae	*Opitutus*	*g__Opitutus*	0.039%	0.030%	0.076%	0.060%	0.057%	0.050%
ASV54	Acidobacteria	Acidobacteria_Gp6	Unclassified	*Acidobacteria_Gp6*	*g__Holophaga*	0.167%	0.063%	0.264%	0.111%	0.214%	0.101%
ASV144	Actinobacteria	Acidimicrobiia	Ilumatobacteraceae	*Ilumatobacter*	*g__Ilumatobacter*	0.054%	0.081%	0.072%	0.068%	0.063%	0.074%
ASV400	Actinobacteria	Actinobacteria	Nocardioidaceae	*Nocardioides*	*g__Nocardioides*	0.038%	0.022%	0.073%	0.050%	0.055%	0.041%
ASV471	Bacteroidetes	Cytophagia	Fulvivirgaceae	*Ohtaekwangia*	*g__Ohtaekwangia*	0.018%	0.014%	0.059%	0.058%	0.038%	0.046%
ASV65	Proteobacteria	Betaproteobacteria	Unclassified	*Betaproteobacteria*	*g__Cupriavidus*	0.145%	0.102%	0.151%	0.055%	0.148%	0.081%
ASV681	Actinobacteria	Actinobacteria	Nocardioidaceae	*Marmoricola*	*g__Marmoricola*	0.100%	0.054%	0.098%	0.053%	0.099%	0.053%

Table S3 : Spearman's rank correlation matrix between soil physicochemical parameters, throughout all treatments (n=29). P value was adjusted to FDR value.

Parameter	Statistics	Clay (%)	Sand (%)	Silt (%)	OOM 5-20 cm (%)	SOC 5-20 cm (%)	SOC 20-40 cm (%)	OOM 20-40 cm (%)	Ratio OOM (5-20)/(20-40)	Ratio SOC (5-20)/(20-40)	Diff SOC % (top-sub)	Diff OOM (%) (top-sub)
Clay (%)	p-adjusted value	0.000	0.000	0.000	0.704	0.706	0.982	0.988	0.368	0.377	0.397	0.347
	[r_s]	1	-0.874	0.764	0.102	0.101	0.012	0.008	0.224	0.22	0.211	0.234
Sand (%)	p-adjusted value	0.000	0.000	0.000	0.676	0.690	0.730	0.732	0.731	0.699	0.730	0.675
	[r_s]	-0.874	1	-0.922	-0.112	-0.107	-0.094	-0.093	-0.093	-0.104	-0.095	-0.113
Silt (%)	p-adjusted value	0.000	0.000	0.000	0.513	0.530	0.939	0.905	0.398	0.340	0.277	0.273
	[r_s]	0.764	-0.922	1	0.168	0.162	0.027	0.039	0.21	0.237	0.265	0.266
OOM 5-20 cm (%)	p-adjusted value	0.598	0.563	0.385	0.000	0.000	**0.000**	**0.000**	0.514	0.992	0.696	0.792
	[r_s]	0.102	-0.112	0.168	1	0.999	**0.722**	**0.727**	-0.167	-0.006	0.105	0.075
SOC 5-20 cm (%)	p-adjusted value	0.602	0.581	0.402	0.000	0.000	0.000	0.000	0.536	0.994	0.676	0.769
	[r_s]	0.101	-0.107	0.162	0.999	1	0.719	0.724	-0.159	0.003	0.112	0.082
OOM 20-40 cm (%)	p-adjusted value	0.968	0.633	0.840	0.000	0.000	0.000	0.000	0.000	0.002	0.031	0.015
	[r_s]	0.008	-0.093	0.039	0.727	0.724	0.997	1	-0.747	-0.616	-0.466	-0.512
SOC 20-40 cm (%)	p-adjusted value	0.951	0.627	0.891	0.000	0.000	0.000	0.000	0.000	0.002	0.025	0.004
	[r_s]	0.012	-0.094	0.027	0.722	0.719	1	0.997	-0.752	-0.626	-0.482	-0.522
Ratio OOM (5-20)/(20-40)	p-adjusted value	0.243	0.631	0.274	0.388	0.409	0.000	0.000	0.000	0.000	0.000	0.000
	[r_s]	0.224	-0.093	0.21	-0.167	-0.159	-0.752	-0.747	1	0.96	0.872	0.906
Ratio SOC (5-20)/(20-40)	p-adjusted value	0.251	0.591	0.216	0.977	0.987	0.000	0.000	0.000	0.000	0.000	0.000
	[r_s]	0.22	-0.104	0.237	-0.006	0.003	-0.626	-0.616	0.96	1	0.943	0.952
Diff SOC (%) (top-sub)	p-adjusted value	0.271	0.625	0.165	0.588	0.562	0.008	0.011	0.000	0.000	0.000	0.000
	[r_s]	0.211	-0.095	0.265	0.105	0.112	-0.482	-0.466	0.872	0.943	1	0.984
Diff OOM (%) (top-sub)	p-adjusted value	0.222	0.559	0.163	0.697	0.673	0.013	0.005	0.000	0.000	0.000	0.000
	[r_s]	0.234	-0.113	0.266	0.075	0.082	-0.522	-0.512	0.906	0.952	0.984	1
C/N	p-adjusted value	0.382	0.889	0.635	0.031	0.035	0.000	0.000	0.000	0.000	0.000	0.000
	[r_s]	-0.218	0.047	-0.128	0.465	0.458	0.857	0.844	-0.837	-0.772	-0.676	-0.69
N Kjeldahl (%)	p-adjusted value	0.251	0.302	0.379	**0.000**	**0.000**	**0.000**	**0.000**	0.011	0.060	0.259	0.185
	[r_s]	0.22	-0.198	0.17	**0.691**	**0.69**	**0.784**	**0.801**	-0.463	-0.353	-0.217	-0.253
NO_3^-(mg/kg)	p-adjusted value	0.849	0.431	0.916	0.188	0.204	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
	[r_s]	-0.037	-0.152	-0.02	0.251	0.243	**0.652**	**0.636**	**-0.73**	**-0.709**	**-0.745**	**-0.74**
NH_4^+(mg/kg)	p-adjusted value	0.281	0.325	0.111	0.388	0.372	0.884	0.999	0.120	**0.033**	0.014	0.018
	[r_s]	0.207	-0.19	0.302	0.166	0.172	-0.028	0	0.295	**0.397**	0.453	0.437
P Olsen (mg/kg)	p-adjusted value	0.050	0.011	0.013	0.014	0.016	**0.001**	**0.001**	0.052	0.119	0.423	0.425
	[r_s]	0.367	-0.467	0.456	0.452	0.443	**0.578**	**0.594**	-0.364	-0.296	-0.155	-0.154
EC (dS/m)	p-adjusted value	0.000	0.000	0.000	0.505	0.516	0.596	0.536	0.079	0.134	0.258	0.126
	[r_s]	0.726	-0.681	0.672	0.129	0.126	-0.103	-0.12	0.331	0.285	0.217	0.291
pH	p-adjusted value	0.777	0.415	0.265	0.003	0.003	0.001	0.001	0.091	0.533	0.907	0.708
	[r_s]	-0.055	0.157	-0.214	-0.532	-0.532	-0.567	-0.587	0.32	0.121	0.023	0.073
K^+ (mg/kg)	p-adjusted value	0.000	0.000	0.000	0.024	0.025	0.284	0.246	0.385	0.232	0.179	0.140
	[r_s]	0.711	-0.694	0.709	0.418	0.416	0.206	0.222	0.168	0.229	0.257	0.281
Mg^{2+} (mg/kg)	p-adjusted value	0.000	0.000	0.000	0.658	0.652	0.097	0.111	0.011	0.017	0.025	0.010
	[r_s]	0.781	-0.734	0.756	-0.086	-0.088	-0.314	-0.303	0.464	0.439	0.416	0.472
Ca^{2+} (mg/kg)	p-adjusted value	0.086	0.032	0.125	0.001	0.001	0.000	0.000	0.001	0.010	0.045	0.026
	[r_s]	0.324	-0.399	0.291	0.585	0.585	0.824	0.817	-0.582	-0.471	-0.374	-0.413
SO_4(mg/kg)	p-adjusted value	0.057	0.061	0.006	0.241	0.236	0.003	0.004	0.001	0.003	0.004	0.003
	[r_s]	0.357	-0.352	0.5	-0.225	-0.227	-0.538	-0.517	0.569	0.533	0.52	0.53
S (mg/kg)	p-adjusted value	0.037	0.012	0.044	0.001	0.002	0.000	0.000	0.018	0.021	0.042	0.044
	[r_s]	0.389	-0.459	0.377	0.566	0.555	0.679	0.668	-0.436	-0.425	-0.379	-0.376
Na (mg/kg)	p-adjusted value	0.000	0.000	0.000	0.522	0.548	0.344	0.361	0.190	0.209	0.240	0.228
	[r_s]	0.652	-0.612	0.619	-0.124	-0.116	-0.182	-0.176	0.251	0.241	0.225	0.231
Ca^{2+}/K^+	p-adjusted value	0.000	0.000	0.000	0.067	0.068	0.504	0.454	0.225	0.142	0.117	0.077
	[r_s]	-0.716	0.672	-0.69	-0.345	-0.343	-0.129	-0.145	-0.233	-0.28	-0.297	-0.334
Ca^{2+}/Mg^{2+}	p-adjusted value	0.000	0.000	0.000	0.534	0.527	0.043	0.053	0.004	0.007	0.011	0.004
	[r_s]	-0.729	0.672	-0.71	0.12	0.122	0.378	0.362	-0.517	-0.493	-0.467	-0.522
Fe (mg/kg)	p-adjusted value	0.677	0.983	0.386	0.314	0.333	0.008	0.010	0.000	0.000	0.000	0.000
	[r_s]	-0.081	-0.004	-0.167	0.194	0.186	0.481	0.471	-0.631	-0.649	-0.678	-0.632
Cu (mg/kg)	p-adjusted value	0.051	0.269	0.480	0.001	0.001	0.000	0.000	0.004	0.057	0.227	0.155
	[r_s]	-0.365	0.212	-0.137	0.588	0.585	**0.67**	**0.69**	-0.522	-0.358	-0.232	-0.271
Zn (mg/kg)	p-adjusted value	0.196	0.474	0.603	0.006	0.007	0.003	0.002	0.010	0.074	0.169	0.124
	[r_s]	-0.247	0.138	-0.101	0.499	0.491	0.529	0.551	-0.47	-0.337	-0.262	-0.292
Mo (mg/kg)	p-adjusted value	0.053	0.076	0.090	0.831	0.856	0.968	0.968	0.717	0.524	0.381	0.272
	[r_s]	0.363	-0.335	0.321	0.041	0.035	-0.008	0.008	0.07	0.123	0.169	0.211
Mg^{2+}/K^+	p-adjusted value	0.380	0.718	0.721	0.000	0.000	0.000	0.000	0.001	0.015	0.072	0.043
	[r_s]	0.169	-0.07	0.069	-0.688	-0.686	-0.849	-0.859	0.575	0.447	0.34	0.379
Mn (mg/kg)	p-adjusted value	0.009	0.015	0.054	0.537	0.534	0.381	0.408	0.530	0.638	0.880	0.780
	[r_s]	0.475	-0.448	0.361	-0.119	-0.12	-0.169	-0.16	0.122	0.091	-0.029	0.054

Parameter	Statistics	C/N	N Kjeldahl (%)	NO_3^- (mg/kg)	NH_4^+(mg/kg)	P Olsen (mg/kg)	EC (dS/m)	pH	K^+ (mg/kg)	Mg^{2+} (mg/kg)	Ca^{2+} (mg/kg)	SO_4 (mg/kg)
Clay (%)	p-adjusted value	0.256	0.377	0.910	0.406	0.105	0.000	0.863	0.000	0.000	0.164	0.117
	[r_s]	-0.218	0.22	-0.037	0.207	0.367	0.726	-0.055	0.711	0.781	0.324	0.357
Sand (%)	p-adjusted value	0.809	0.427	0.558	0.453	0.031	0.000	0.542	0.000	0.000	0.075	0.123
	[r_s]	0.047	-0.198	-0.152	-0.19	-0.467	-0.681	0.157	-0.694	-0.734	-0.399	-0.352
Silt (%)	p-adjusted value	0.509	0.511	0.956	0.202	0.036	0.000	0.391	0.000	0.000	0.220	0.018
	[r_s]	-0.128	0.17	-0.02	0.302	0.456	0.672	-0.214	0.709	0.756	0.291	0.5
OOM 5-20 cm (%)	p-adjusted value	0.011	**0.000**	0.306	0.514	0.038	0.632	0.011	0.060	0.755	0.004	0.366
	[r_s]	0.465	**0.691**	0.251	0.166	0.452	0.129	-0.532	0.418	-0.086	0.585	-0.225
SOC 5-20 cm (%)	p-adjusted value	0.012	0.000	0.324	0.503	0.042	0.641	0.011	0.060	0.751	0.004	0.361
	[r_s]	0.458	0.69	0.243	0.172	0.443	0.126	-0.532	0.416	-0.088	0.585	-0.227
OOM 20-40 cm (%)	p-adjusted value	0.000	0.000	0.001	1.000	0.003	0.655	0.004	0.372	0.202	0.000	0.014
	[r_s]	0.844	0.801	0.636	0	0.594	-0.12	-0.587	0.222	-0.303	0.817	-0.517
SOC 20-40 cm (%)	p-adjusted value	0.000	0.000	0.001	0.934	0.004	0.702	0.006	0.409	0.179	0.000	0.010
	[r_s]	0.857	0.784	0.652	-0.028	0.578	-0.103	-0.567	0.206	-0.314	0.824	-0.538
Ratio OOM (5-20)/(20-40)	p-adjusted value	0.000	0.032	0.000	0.215	0.110	0.152	0.171	0.513	0.032	0.004	0.005
	[r_s]	-0.837	-0.463	-0.73	0.295	-0.364	0.331	0.32	0.168	0.464	-0.582	0.569
Ratio SOC (5-20)/(20-40)	p-adjusted value	0.000	0.122	0.000	0.077	0.215	0.233	0.655	0.356	0.045	0.029	0.011
	[r_s]	-0.772	-0.353	-0.709	0.397	-0.296	0.285	0.121	0.229	0.439	-0.471	0.533
Diff SOC (%) (top-sub)	p-adjusted value	0.000	0.384	0.000	0.038	0.551	0.384	0.951	0.292	0.060	0.097	0.013
	[r_s]	-0.676	-0.217	-0.745	0.453	-0.155	0.217	0.023	0.257	0.416	-0.374	0.52
Diff OOM (%) (top-sub)	p-adjusted value	0.000	0.302	0.000	0.046	0.552	0.221	0.801	0.242	0.029	0.063	0.011
	[r_s]	-0.69	-0.253	-0.74	0.437	-0.154	0.291	0.073	0.281	0.472	-0.413	0.53
C/N	p-adjusted value	0.000	0.071	**0.000**	0.250	0.117	0.346	0.127	0.696	0.015	**0.000**	0.009
	[r_s]	1	0.404	**0.768**	-0.277	0.357	-0.234	-0.349	-0.105	-0.513	**0.7**	-0.543
N Kjeldahl (%)	p-adjusted value	0.030	0.000	0.093	0.176	0.001	0.815	0.002	0.020	0.918	0.001	0.103
	[r_s]	0.404	1	0.317	0.258	0.651	0.046	-0.553	0.495	0.034	0.651	-0.369
NO_3^-(mg/kg)	p-adjusted value	**0.000**	0.174	0.000	0.012	0.172	0.700	0.311	0.922	0.152	0.005	0.017
	[r_s]	**0.768**	0.317	1	-0.46	0.319	-0.075	-0.195	-0.033	-0.331	0.569	-0.503
NH_4^+(mg/kg)	p-adjusted value	0.146	0.291	**0.034**	0.000	0.682	0.771	0.005	0.046	0.233	0.532	0.438
	[r_s]	-0.277	0.258	**-0.46**	1	0.11	-0.057	-0.504	0.436	0.285	0.161	0.195
P Olsen (mg/kg)	p-adjusted value	0.057	**0.000**	0.092	0.572	0.000	0.063	0.038	0.009	0.292	0.084	0.890
	[r_s]	0.357	**0.651**	0.319	0.11	1	0.35	-0.387	0.545	0.257	0.39	0.046
EC (dS/m)	p-adjusted value	0.221	0.891	0.793	0.858	0.126	0.000	0.889	0.002	0.000	0.909	0.012
	[r_s]	-0.234	0.046	-0.075	-0.057	0.35	1	0.048	0.618	0.765	0.038	0.527
pH	p-adjusted value	0.064	0.008	0.438	0.017	0.086	0.807	0.000	0.147	0.993	0.009	0.916
	[r_s]	-0.349	-0.553	-0.195	-0.504	-0.387	0.048	1	-0.335	-0.004	-0.542	0.035
K^+ (mg/kg)	p-adjusted value	0.588	0.006	0.866	0.018	0.002	0.000	0.075	0.000	0.000	0.183	0.427
	[r_s]	-0.105	0.495	-0.033	0.436	0.545	0.618	-0.335	1	0.705	0.312	0.198
Mg^{2+} (mg/kg)	p-adjusted value	0.004	0.860	0.079	0.134	0.178	0.000	0.984	0.000	0.000	0.755	0.004
	[r_s]	-0.513	0.034	-0.331	0.285	0.257	0.765	-0.004	0.705	1	-0.086	0.59
Ca^{2+} (mg/kg)	p-adjusted value	0.000	0.000	0.001	0.404	0.037	0.846	0.002	0.099	0.657	0.000	0.094
	[r_s]	0.7	0.651	0.569	0.161	0.39	0.038	-0.542	0.312	-0.086	1	-0.379
SO_4(mg/kg)	p-adjusted value	0.002	0.049	0.005	0.312	0.813	0.003	0.858	0.302	0.001	0.043	0.000
	[r_s]	-0.543	-0.369	-0.503	0.195	0.046	0.527	0.035	0.198	0.59	-0.379	1
S (mg/kg)	p-adjusted value	0.000	0.005	0.000	0.063	0.002	0.024	0.487	0.021	0.798	0.000	0.289
	[r_s]	0.626	0.504	0.629	-0.35	0.545	0.418	-0.134	0.425	0.05	0.629	-0.204
Na (mg/kg)	p-adjusted value	0.089	0.978	0.081	0.171	0.572	0.015	0.903	0.005	0.000	0.756	0.187
	[r_s]	-0.321	0.005	-0.329	0.261	0.109	0.447	0.024	0.504	0.647	0.06	0.252
Ca^{2+}/K^+	p-adjusted value	0.364	0.022	0.683	0.023	0.003	0.000	0.155	0.000	0.000	0.272	0.232
	[r_s]	0.175	-0.423	0.079	-0.42	-0.528	-0.646	0.271	-0.986	-0.746	-0.211	-0.229
Ca^{2+}/Mg^{2+}	p-adjusted value	0.001	0.997	0.037	0.111	0.228	0.000	0.931	0.000	0.000	0.363	0.000
	[r_s]	0.576	-0.001	0.39	-0.303	-0.231	-0.732	-0.017	-0.69	-0.991	0.175	-0.617
Fe (mg/kg)	p-adjusted value	0.001	0.099	0.000	0.002	0.042	0.973	0.821	0.967	0.263	0.170	0.004
	[r_s]	0.583	0.312	0.734	-0.545	0.379	-0.006	-0.044	-0.008	-0.215	0.262	-0.513
Cu (mg/kg)	p-adjusted value	0.001	0.001	0.027	0.293	0.018	0.075	0.000	0.947	0.032	0.026	0.121
	[r_s]	0.584	0.562	0.412	0.202	0.436	-0.336	-0.695	0.013	-0.399	0.414	-0.294
Zn (mg/kg)	p-adjusted value	0.020	0.003	0.027	0.898	0.003	0.379	0.007	0.878	0.160	0.277	0.414
	[r_s]	0.429	0.531	0.41	-0.025	0.534	-0.17	-0.494	0.03	-0.268	0.209	-0.158
Mo (mg/kg)	p-adjusted value	0.247	0.092	0.817	0.289	0.014	0.042	0.300	0.027	0.004	0.931	0.171
	[r_s]	-0.222	0.319	-0.045	0.204	0.451	0.38	-0.199	0.411	0.519	0.017	0.262
Mg^{2+}/K^+	p-adjusted value	0.000	0.000	0.003	0.370	0.009	0.213	0.001	0.141	0.033	0.000	0.002
	[r_s]	-0.694	-0.717	-0.538	-0.173	-0.479	0.238	0.601	-0.28	0.397	-0.636	0.56
Mn (mg/kg)	p-adjusted value	0.134	0.569	0.713	0.629	0.124	0.004	0.470	0.002	0.000	0.551	0.229
	[r_s]	-0.285	0.11	0.071	0.094	0.292	0.523	-0.139	0.551	0.62	-0.115	0.231

Parameter	Statistics	S (mg/kg)	Na (mg/kg)	Ca^{2+}/K^{+}	Ca^{2+}/Mg^{2+}	Fe (mg/kg)	Cu (mg/kg)	Zn (mg/kg)	Mo (mg/kg)	Mg^{2+}/K^{+}	Mn (mg/kg)
Clay (%)	p-adjusted value	0.084	0.001	0.000	0.00E+00	0.773	0.108	0.315	0.111	0.511	0.028
	[r_s]	0.389	0.652	-0.716	-0.729	-0.081	-0.365	-0.247	0.363	0.169	0.475
Sand (%)	p-adjusted value	0.034	0.002	0.000	0.000	0.993	0.395	0.605	0.147	0.807	0.040
	[r_s]	-0.459	-0.612	0.672	0.672	-0.004	0.212	0.138	-0.335	-0.07	-0.448
Silt (%)	p-adjusted value	0.095	0.002	0.000	0.000	0.514	0.609	0.706	0.169	0.808	0.112
	[r_s]	0.377	0.619	-0.69	-0.71	-0.167	-0.137	-0.101	0.321	0.069	0.361
OOM 5-20 cm (%)	p-adjusted value	0.006	0.648	0.133	0.655	0.441	**0.004**	**0.018**	0.898	**0.000**	0.655
	[r_s]	0.566	-0.124	-0.345	0.12	0.194	**0.588**	**0.499**	0.041	**-0.688**	-0.119
SOC 5-20 cm (%)	p-adjusted value	0.007	0.664	0.135	0.652	0.461	0.004	0.021	0.916	0.000	0.655
	[r_s]	0.555	-0.116	-0.343	0.122	0.186	0.585	0.491	0.035	-0.686	-0.12
OOM 20-40 cm (%)	p-adjusted value	0.001	0.494	0.583	0.111	0.029	0.000	0.008	0.988	0.000	0.536
	[r_s]	0.668	-0.176	-0.145	0.362	0.471	0.69	0.551	0.008	-0.859	-0.16
SOC 20-40 cm (%)	p-adjusted value	0.000	0.473	0.632	0.094	0.025	0.000	0.011	0.988	0.000	0.511
	[r_s]	0.679	-0.182	-0.129	0.378	0.481	0.67	0.529	-0.008	-0.849	-0.169
Ratio OOM (5-20)/(20-40)	p-adjusted value	0.046	0.306	0.350	0.014	0.001	0.013	0.029	0.807	0.005	0.654
	[r_s]	-0.436	0.251	-0.233	-0.517	-0.631	-0.522	-0.47	0.07	0.575	0.122
Ratio SOC (5-20)/(20-40)	p-adjusted value	0.054	0.331	0.244	0.020	0.001	0.117	0.145	0.648	0.040	0.736
	[r_s]	-0.425	0.241	-0.28	-0.493	-0.649	-0.358	-0.337	0.123	0.447	0.091
Diff SOC (%) (top-sub)	p-adjusted value	0.094	0.366	0.213	0.031	0.000	0.352	0.283	0.511	0.141	0.931
	[r_s]	-0.379	0.225	-0.297	-0.467	-0.678	-0.232	-0.262	0.169	0.34	-0.029
Diff OOM (%) (top-sub)	p-adjusted value	0.096	0.352	0.148	0.013	0.001	0.261	0.220	0.397	0.094	0.865
	[r_s]	-0.376	0.231	-0.334	-0.522	-0.632	-0.271	-0.292	0.211	0.379	0.054
C/N	p-adjusted value	0.002	0.169	0.496	0.005	0.004	0.004	0.052	0.372	**0.000**	0.233
	[r_s]	0.626	-0.321	0.175	0.576	0.583	0.584	0.429	-0.222	**-0.694**	-0.285
N Kjeldahl (%)	p-adjusted value	0.017	0.992	0.056	1.000	0.183	0.006	0.011	0.172	0.000	0.682
	[r_s]	0.504	0.005	-0.423	-0.001	0.312	0.562	0.531	0.319	-0.717	0.11
NO_3^-(mg/kg)	p-adjusted value	0.001	0.155	0.778	0.084	0.000	0.064	0.065	0.891	0.010	0.805
	[r_s]	0.629	-0.329	0.079	0.39	0.734	0.412	0.41	-0.045	-0.538	0.071
NH_4^+(mg/kg)	p-adjusted value	0.126	0.283	0.058	0.202	0.009	0.417	0.945	0.413	0.503	0.730
	[r_s]	-0.35	0.261	-0.42	-0.303	-0.545	0.202	-0.025	0.204	-0.173	0.094
P Olsen (mg/kg)	p-adjusted value	0.009	0.682	0.012	0.352	0.094	0.047	0.011	0.039	0.026	0.220
	[r_s]	0.545	0.109	-0.528	-0.231	0.379	0.436	0.534	0.451	-0.479	0.292
EC (dS/m)	p-adjusted value	0.060	0.040	0.001	0.000	0.991	0.146	0.511	0.094	0.336	0.013
	[r_s]	0.418	0.447	-0.646	-0.732	-0.006	-0.336	-0.17	0.38	0.238	0.523
pH	p-adjusted value	0.616	0.949	0.261	0.967	0.892	0.000	0.020	0.425	0.003	0.601
	[r_s]	-0.134	0.024	0.271	-0.017	-0.044	-0.695	-0.494	-0.199	0.601	-0.139
K^+ (mg/kg)	p-adjusted value	0.054	0.017	0.000	0.000	0.988	0.981	0.931	0.064	0.243	0.008
	[r_s]	0.425	0.504	-0.986	-0.69	-0.008	0.013	0.03	0.411	-0.28	0.551
Mg^{2+} (mg/kg)	p-adjusted value	0.881	0.001	0.000	0.000	0.390	0.075	0.269	0.013	0.077	0.002
	[r_s]	0.05	0.647	-0.746	-0.991	-0.215	-0.399	-0.268	0.519	0.397	0.62
Ca^{2+} (mg/kg)	p-adjusted value	0.001	0.846	0.397	0.495	0.283	0.062	0.400	0.967	0.001	0.666
	[r_s]	0.629	0.06	-0.211	0.175	0.262	0.414	0.209	0.017	-0.636	-0.115
SO_4(mg/kg)	p-adjusted value	0.413	0.305	0.356	0.002	0.015	0.216	0.541	0.283	0.006	0.352
	[r_s]	-0.204	0.252	-0.229	-0.617	-0.513	-0.294	-0.158	0.262	0.56	0.231
S (mg/kg)	p-adjusted value	0.000	0.761	0.102	0.983	0.016	0.455	0.316	0.986	0.015	0.853
	[r_s]	1	0.084	-0.37	0.011	0.507	0.189	0.247	0.01	-0.511	0.058
Na (mg/kg)	p-adjusted value	0.664	0.000	0.013	0.002	0.269	0.015	0.015	0.912	0.220	0.093
	[r_s]	0.084	1	-0.518	-0.612	-0.212	-0.448	-0.446	0.021	0.292	0.318
Ca^{2+}/K^{+}	p-adjusted value	0.048	0.004	0.000	0.000	0.876	0.808	0.914	0.023	0.381	0.001
	[r_s]	-0.37	-0.518	1	0.737	0.03	0.047	0.021	-0.42	0.219	-0.582
Ca^{2+}/Mg^{2+}	p-adjusted value	0.953	0.000	0.000	0.000	0.198	0.034	0.191	0.002	0.060	0.000
	[r_s]	0.011	-0.612	0.737	1	0.246	0.396	0.25	-0.544	-0.417	-0.626
Fe (mg/kg)	p-adjusted value	0.005	0.395	0.931	0.317	0.000	0.044	0.014	0.609	0.093	0.098
	[r_s]	0.507	-0.212	0.03	0.246	1	0.377	0.515	0.137	-0.381	0.373
Cu (mg/kg)	p-adjusted value	0.327	0.040	0.889	0.078	0.095	0.000	0.000	0.624	0.000	0.881
	[r_s]	0.189	-0.448	0.047	0.396	0.377	1	0.834	0.132	-0.742	-0.05
Zn (mg/kg)	p-adjusted value	0.197	0.040	0.955	0.308	0.004	0.000	0.000	0.135	0.011	0.655
	[r_s]	0.247	-0.446	0.021	0.25	0.515	0.834	1	0.343	-0.534	0.119
Mo (mg/kg)	p-adjusted value	0.958	0.955	0.058	0.009	0.479	0.495	0.068	0.000	0.893	0.001
	[r_s]	0.01	0.021	-0.42	-0.544	0.137	0.132	0.343	1	0.043	0.603
Mg^{2+}/K^{+}	p-adjusted value	0.005	0.124	0.255	0.024	0.041	0.000	0.003	0.823	0.000	0.573
	[r_s]	-0.511	0.292	0.219	-0.417	-0.381	-0.742	-0.534	0.043	1	0.109
Mn (mg/kg)	p-adjusted value	0.764	0.174	0.004	0.002	0.046	0.797	0.538	0.003	0.682	0.000
	[r_s]	0.058	0.318	-0.582	-0.626	0.373	-0.05	0.119	0.603	0.109	1

Table S4: Summary of results from ANOVA assessment on qPCR data:

EUB16S rRNA (log gene copies/g)

Group Name	N	Missing	Mean	Std Dev	SEM
CONV	15	0	9.480	0.262	0.0678
ECO	14	0	9.239	0.282	0.0754

Source of Variation	DF	SS	MS	F	P
Between Groups	1	0.421	0.421	5.686	0.024
Residual	27	1.998	0.0740		
Total	28	2.419			

The differences in the mean values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = 0.024).

Power of performed test with alpha = 0.050: 0.545
All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparisons for factor: **Type**

Comparison	Diff of Means	p	q	P	P<0.050
CONV vs. ECO	0.241	2	3.372	0.025	Yes

FUNGAL ITS (log gene copies/g)

Normality Test: Passed (P = 0.264)
Equal Variance Test: Passed (P = 0.152)

Group Name	N	Missing	Mean	Std Dev	SEM
CONV	15	0	8.329	0.314	0.0810
ECO	14	0	8.538	0.246	0.0657

Source of Variation	DF	SS	MS	F	P
Between Groups	1	0.317	0.317	3.951	0.057
Residual	27	2.164	0.0801		
Total	28	2.480			

The differences in the mean values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.057).

Power of performed test with alpha = 0.050: 0.367

The power of the performed test (0.367) is below the desired power of 0.800.
Less than desired power indicates you are less likely to detect a difference when one actually exists.
Negative results should be interpreted cautiously.

AOB (log amoA gene copies/g)

Normality Test: Passed (P = 0.264)

Equal Variance Test: Passed (P = 0.885)

Group Name	N	Missing	Mean	Std Dev	SEM
CONV	15	3	7.740	0.478	0.138
ECO	14	0	8.113	0.403	0.108

Source of Variation	DF	SS	MS	F	P
Between Groups	1	0.899	0.899	4.659	0.041
Residual	24	4.631	0.193		
Total	25	5.531			

The differences in the mean values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = 0.041).

Power of performed test with alpha = 0.050: 0.439
All Pairwise Multiple Comparison Procedures (Tukey Test):
Comparisons for factor: **Type**

Comparison	Diff of Means	p	q	P	P<0.050
ECO vs. CONV	0.373	2	3.053	0.041	Yes

AOA (log amoA gene copies/g)

Normality Test: Failed (P < 0.050)
Test execution ended by user request, ANOVA on Ranks begun

Kruskal-Wallis One Way Analysis of Variance on Ranks

Dependent Variable: AOA

Group	N	Missing	Median	25%	75%
CONV	15	3	5.174	4.795	5.314
ECO	14	0	5.317	5.241	5.428

H = 3.058 with 1 degrees of freedom. (P = 0.080)

The differences in the median values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.080)

ITS/16S rRNA

Dependent Variable: ITS/16S
Normality Test: Failed (P < 0.050)
Test execution ended by user request, ANOVA on Ranks begun
Kruskal-Wallis One Way Analysis of Variance on Ranks dijous, març 30, 2023, 18:49:37
Dependent Variable: ITS/16S

Group	N	Missing	Median	25%	75%
CONV	15	0	0.0490	0.0406	0.134
ECO	14	0	0.194	0.135	0.269

H = 11.589 with 1 degrees of freedom. (P = <0.001)The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

AOB/AOA

Dependent Variable: AOB/AOA
Normality Test: Failed (P < 0.050)
Test execution ended by user request, ANOVA on Ranks begun

Kruskal-Wallis One Way Analysis of Variance on Ranks

Dependent Variable: AOB/AOA

Group	N	Missing	Median	25%	75%
CONV	15	4	654.903	269.153	742.750
ECO	14	0	789.392	484.615	1046.128

H = 1.873 with 1 degrees of freedom. (P = 0.171)

The differences in the median values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.171)

YIELD (Kg/ha)
One Way Analysis of Variance diumenge, abril 23, 2023, 22:37:36
Data source: Data 1 in qpcr i estadistica.JNB
Dependent Variable: YIELD
Normality Test: Passed (P = 0.256)
Equal Variance Test: Passed (P = 0.649)

Group Name	N	Missing	Mean	Std Dev	SEM
CON	3	0	8004.333	1261.721	728.455
ECO	3	0	8663.000	559.386	322.962

Source of Variation	DF	SS	MS	F	P
Between Groups	1	650762.667	650762.667	0.683	0.455
Residual	4	3809706.667	952426.667		
Total	5	4460469.333			

The differences in the mean values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.455).

Power of performed test with alpha = 0.050: 0.050

The power of the performed test (0.050) is below the desired power of 0.800.
Less than desired power indicates you are less likely to detect a difference when one actually exists.
Negative results should be interpreted cautiously.

Table S5: Detail of results of Linear Mixed Models applied to subsurface soil texture in ECO and CON Plots

Table S1. Effects of the farming system ORG (ECO) vs CON, on the proportion (%) of clay, silt and sand in soils of the surveyed fields. Estimated coefficients and their standard errors for the linear mixed models and the P-values (*** when p-value <0.001; · <0.1 and n.s. >0.1) of the fixed effect factors; variance and their standard deviation of the field and plot (residual) random effect factors; and conditional (R2 c) and marginal (R2 m) coefficients of determination for each model are shown. (adapted from Rotchés-Ribalta et al., 2023)

	Clay (%)		**Silt (%)**		**Sand (%)**	
	Estimate ± SE		Estimate ± SE		Estimate ± SE	
Fixed effects						
Intercept	17.520 ± 1.949	***	36.533 ± 3.138	***	45.947 ± 4.875	***
ORG (vs. CON)	6.607 ± 2.756	·	5.367 ± 4.438	n.s.	-11.973 ± 6.894	n.s.
	Variance ± Std.Dev		Variance ± Std.Dev		Variance ± Std.Dev	
Random effects						
Field	7.144 ± 2.673		14.270 ± 3.777		40.780 ± 6.386	
Residual	21.234 ± 4.608		76.360 ± 8.738		152.580 ± 12.352	
R^2 c	0.465		0.221		0.338	
R^2 m	0.285		0.076		0.161	

Table S6: Summary of statistical results from Linear Models:

```
lm_summary_2 <- lapply(split(Analisis_sol_long, Analisis_sol_long$Variable), function(i){
                        summary(lm(Value ~ Management, data = i))})
lm_summary_2
```

$Kjeldahl

```
Call:
lm(formula = Value ~ Management, data = i)
Residuals:
     Min       1Q   Median       3Q      Max
-0.03420 -0.01595 -0.00220  0.01555  0.05080
Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)   0.079200   0.005591  14.165 2.71e-14 ***
ManagementECO 0.004000   0.007907   0.506    0.617
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.02166 on 28 degrees of freedom
Multiple R-squared:  0.009056,  Adjusted R-squared:  -0.02633
F-statistic: 0.2559 on 1 and 28 DF,  p-value: 0.6169
```

$NO3

```
Call:
lm(formula = Value ~ Management, data = i)

Residuals:
    Min      1Q  Median      3Q     Max
-1.7733 -0.3867 -0.3867  0.0267  5.2133
```

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	3.6733	0.4191	8.765	1.62e-09	***
ManagementECO	-1.3867	0.5927	-2.340	0.0267	*

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.623 on 28 degrees of freedom

Multiple R-squared: 0.1635, Adjusted R-squared: 0.1337

F-statistic: 5.474 on 1 and 28 DF, p-value: 0.02666

$NH4

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

Min	1Q	Median	3Q	Max
-2.700	-0.775	-0.090	0.760	2.200

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	4.2400	0.2961	14.317	2.08e-14	***
ManagementECO	1.6600	0.4188	3.964	0.000463	***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.147 on 28 degrees of freedom

Multiple R-squared: 0.3594, Adjusted R-squared: 0.3365

F-statistic: 15.71 on 1 and 28 DF, p-value: 0.0004633

$P

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

   Min   1Q Median   3Q   Max

-9.0520 -4.5727 -0.8227 4.4678 16.2273

Coefficients:

            Estimate Std. Error t value Pr(>|t|)

(Intercept)   13.952   1.621   8.607 2.36e-09 ***

ManagementECO   1.021   2.292   0.445   0.66

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 6.278 on 28 degrees of freedom

Multiple R-squared: 0.00703,   Adjusted R-squared: -0.02843

F-statistic: 0.1982 on 1 and 28 DF, p-value: 0.6596

$K

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

   Min   1Q Median   3Q   Max

-154.27 -48.02 -5.40 30.47 222.47

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	153.53	21.48	7.147	8.89e-08	***
ManagementECO	73.73	30.38	2.427	0.0219	*

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 83.2 on 28 degrees of freedom

Multiple R-squared: 0.1738, Adjusted R-squared: 0.1443

F-statistic: 5.89 on 1 and 28 DF, p-value: 0.02191

$SOC_5_20

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

Min	1Q	Median	3Q	Max
-0.5740	-0.1545	-0.0630	0.1235	0.6680

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	0.57400	0.06617	8.675	2.01e-09	***
ManagementECO	0.08800	0.09357	0.940	0.355	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.2563 on 28 degrees of freedom

Multiple R-squared: 0.03062,   Adjusted R-squared: -0.004002

F-statistic: 0.8844 on 1 and 28 DF, p-value: 0.355

$SOC_20_40

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

   Min   1Q Median   3Q   Max

-0.3313 -0.1427 -0.0620 0.1527 0.4887

Coefficients:

            Estimate Std. Error t value Pr(>|t|)

(Intercept)   0.61133   0.06203   9.855 1.33e-10 ***

ManagementECO -0.18867   0.08772 -2.151   0.0403 *

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.2402 on 28 degrees of freedom

Multiple R-squared: 0.1418,   Adjusted R-squared: 0.1111

F-statistic: 4.625 on 1 and 28 DF, p-value: 0.04028

$Diff_SOC

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

```
    Min      1Q  Median      3Q     Max
-0.24267 -0.08767 -0.03100  0.05733  0.33733

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)   -0.03733    0.03508  -1.064    0.296
ManagementECO  0.27667    0.04962   5.576 5.76e-06 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1359 on 28 degrees of freedom
Multiple R-squared:  0.5262,      Adjusted R-squared:  0.5092
F-statistic: 31.09 on 1 and 28 DF,  p-value: 5.761e-06
```

$SOC5_SOC20

```
Call:
lm(formula = Value ~ Management, data = i)

Residuals:
    Min      1Q  Median      3Q     Max
-0.99479 -0.18124 -0.00732  0.16542  1.07664

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)    0.99479    0.09253  10.751  1.9e-11 ***
ManagementECO  0.61657    0.13086   4.712  6.1e-05 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

Residual standard error: 0.3584 on 28 degrees of freedom

Multiple R-squared: 0.4422, Adjusted R-squared: 0.4223

F-statistic: 22.2 on 1 and 28 DF, p-value: 6.099e-05

$OOM_5_20

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

Min	1Q	Median	3Q	Max
-0.5340	-0.2682	-0.1223	0.1860	1.1493

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	1.0240	0.1061	9.649	2.1e-10	***
ManagementECO	0.1167	0.1501	0.777	0.443	

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.411 on 28 degrees of freedom

Multiple R-squared: 0.02113, Adjusted R-squared: -0.01383

F-statistic: 0.6043 on 1 and 28 DF, p-value: 0.4435

$OOM_20_40

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

```
   Min      1Q  Median      3Q     Max
-0.5540 -0.2347 -0.1193  0.2810  0.8560
```

Coefficients:

```
                Estimate Std. Error t value Pr(>|t|)
(Intercept)     1.0440     0.1056   9.888 1.23e-10 ***
ManagementECO  -0.3193     0.1493  -2.139   0.0413 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

Residual standard error: 0.4089 on 28 degrees of freedom

Multiple R-squared: 0.1404,	Adjusted R-squared: 0.1097

F-statistic: 4.574 on 1 and 28 DF, p-value: 0.04132

$Diff_OOM

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

```
   Min      1Q  Median      3Q     Max
-0.2500 -0.1345 -0.0560  0.1080  0.5300
```

Coefficients:

```
                Estimate Std. Error t value Pr(>|t|)
(Intercept)   -0.02000    0.05528  -0.362     0.72
ManagementECO  0.43600    0.07818   5.577 5.75e-06 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

Residual standard error: 0.2141 on 28 degrees of freedom

Multiple R-squared: 0.5262, Adjusted R-squared: 0.5093

F-statistic: 31.1 on 1 and 28 DF, p-value: 5.748e-06

$OOM5_OOM20

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

Min	1Q	Median	3Q	Max
-0.38069	-0.19798	-0.06575	0.12885	0.97573

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	1.06508	0.08308	12.820	3.08e-13	***
ManagementECO	0.57275	0.11749	4.875	3.90e-05	***

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.3218 on 28 degrees of freedom

Multiple R-squared: 0.4591, Adjusted R-squared: 0.4398

F-statistic: 23.76 on 1 and 28 DF, p-value: 3.905e-05

$Ca

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

```
   Min      1Q  Median      3Q     Max
-695.00 -297.25   52.53  249.40  690.00
```

Coefficients:

```
            Estimate Std. Error t value Pr(>|t|)
(Intercept)     6591.0      105.9  62.225   <2e-16 ***
ManagementECO   -139.5      149.8  -0.931     0.36
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

Residual standard error: 410.2 on 28 degrees of freedom

Multiple R-squared: 0.03006,   Adjusted R-squared: -0.004584

F-statistic: 0.8677 on 1 and 28 DF, p-value: 0.3596

$Cu

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

```
    Min      1Q   Median      3Q     Max
-11.8267  -5.1900  -0.9533   4.2833  20.0200
```

Coefficients:

```
            Estimate Std. Error t value Pr(>|t|)
(Intercept)     19.427      2.073   9.369 3.98e-10 ***
ManagementECO   -6.947      2.932  -2.369    0.025 *
---
```

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 8.031 on 28 degrees of freedom

Multiple R-squared: 0.167, Adjusted R-squared: 0.1372

F-statistic: 5.612 on 1 and 28 DF, p-value: 0.02497

$Fe

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

   Min   1Q Median   3Q   Max

-42.467 -10.883 -0.800   7.617 51.533

Coefficients:

            Estimate Std. Error t value Pr(>|t|)

(Intercept)   74.467   5.243 14.204 2.53e-14 ***

ManagementECO -39.333   7.414 -5.305 1.20e-05 ***

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 20.3 on 28 degrees of freedom

Multiple R-squared: 0.5013, Adjusted R-squared: 0.4835

F-statistic: 28.15 on 1 and 28 DF, p-value: 1.205e-05

$S

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

Min	1Q	Median	3Q	Max
-271.55	-147.10	-28.61	35.32	808.65

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	352.45	58.33	6.043	1.63e-06	***
ManagementECO	-166.09	82.49	-2.014	0.0538	.

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 225.9 on 28 degrees of freedom

Multiple R-squared: 0.1265, Adjusted R-squared: 0.09529

F-statistic: 4.054 on 1 and 28 DF, p-value: 0.05376

$SO4

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

Min	1Q	Median	3Q	Max
-21.200	-14.133	-8.167	5.317	66.867

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	22.133	5.434	4.073	0.000346	***
ManagementECO	15.067	7.686	1.960	0.059968	.

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 21.05 on 28 degrees of freedom

Multiple R-squared: 0.1207, Adjusted R-squared: 0.08929

F-statistic: 3.843 on 1 and 28 DF, p-value: 0.05997

$pH

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

Min	1Q	Median	3Q	Max
-0.12667	-0.02667	-0.02667	0.07333	0.17333

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	8.427e+00	2.175e-02	387.5	<2e-16	***
ManagementECO	-8.260e-16	3.076e-02	0.0	1	

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.08423 on 28 degrees of freedom

Multiple R-squared: 7.783e-28, Adjusted R-squared: -0.03571

F-statistic: 2.179e-26 on 1 and 28 DF, p-value: 1

$Ca_K

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

Min	1Q	Median	3Q	Max
-37.76	-15.26	-6.36	1.99	77.94

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	57.060	6.819	8.368	4.2e-09	***
ManagementECO	-24.100	9.643	-2.499	0.0186	*

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 26.41 on 28 degrees of freedom

Multiple R-squared: 0.1824, Adjusted R-squared: 0.1532

F-statistic: 6.246 on 1 and 28 DF, p-value: 0.01858

$Ca_Mg

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

Min	1Q	Median	3Q	Max
-19.640	-11.035	-1.830	5.625	38.280

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	46.440	3.587	12.947	2.43e-13	***

ManagementECO -20.020   5.073 -3.947 0.000485 ***

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 13.89 on 28 degrees of freedom

Multiple R-squared: 0.3574,   Adjusted R-squared: 0.3345

F-statistic: 15.57 on 1 and 28 DF, p-value: 0.0004849

$ElectCond

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

     Min   1Q   Median   3Q   Max

-0.018000 -0.008000 0.002000 0.002667 0.032000

Coefficients:

            Estimate Std. Error t value Pr(>|t|)

(Intercept)   0.147333   0.003285 44.845   <2e-16 ***

ManagementECO 0.010667   0.004646   2.296   0.0294 *

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.01272 on 28 degrees of freedom

Multiple R-squared: 0.1584,   Adjusted R-squared: 0.1284

F-statistic: 5.271 on 1 and 28 DF, p-value: 0.02938

$Mg

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

Min	1Q	Median	3Q	Max
-248.07	-45.03	-15.80	44.32	352.93

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	149.53	35.53	4.209	0.000240	***
ManagementECO	192.53	50.25	3.832	0.000659	***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 137.6 on 28 degrees of freedom

Multiple R-squared: 0.344, Adjusted R-squared: 0.3206

F-statistic: 14.68 on 1 and 28 DF, p-value: 0.0006585

$Mn

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

Min	1Q	Median	3Q	Max
-55.667	-29.917	-7.667	21.150	85.333

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)

(Intercept) 83.667 10.095 8.288 5.1e-09 ***

ManagementECO 1.733 14.276 0.121 0.904

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 39.1 on 28 degrees of freedom

Multiple R-squared: 0.0005262,Adjusted R-squared: -0.03517

F-statistic: 0.01474 on 1 and 28 DF, p-value: 0.9042

$Mo

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

  Min 1Q Median 3Q Max

-0.020 -0.013 0.000 0.006 0.030

Coefficients:

  Estimate Std. Error t value Pr(>|t|)

(Intercept) 0.104000 0.003703 28.083 <2e-16 ***

ManagementECO 0.006000 0.005237 1.146 0.262

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.01434 on 28 degrees of freedom

Multiple R-squared: 0.04478, Adjusted R-squared: 0.01066

F-statistic: 1.312 on 1 and 28 DF, p-value: 0.2616

$Mg_K

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

Min	1Q	Median	3Q	Max
-0.7600	-0.5300	-0.3533	0.5167	2.1467

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	1.2600	0.2052	6.139	1.26e-06	***
ManagementECO	0.2933	0.2903	1.011	0.321	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.7949 on 28 degrees of freedom

Multiple R-squared: 0.03519, Adjusted R-squared: 0.0007323

F-statistic: 1.021 on 1 and 28 DF, p-value: 0.3209

$Na

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

Min	1Q	Median	3Q	Max
-11.1333	-3.6833	-0.3333	1.4667	17.8667

Coefficients:

```
            Estimate Std. Error t value Pr(>|t|)
(Intercept)     16.333      1.661   9.832  1.4e-10 ***
ManagementECO    6.800      2.349   2.894  0.00728 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 6.434 on 28 degrees of freedom
Multiple R-squared:  0.2303,      Adjusted R-squared:  0.2028
F-statistic: 8.378 on 1 and 28 DF,  p-value: 0.007281
```

$Zn

```
Call:
lm(formula = Value ~ Management, data = i)

Residuals:
   Min     1Q  Median     3Q    Max
-1.4667 -0.4667 -0.4667  0.5333  3.5333

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)     3.4667     0.2823  12.281 8.61e-13 ***
ManagementECO  -1.0000     0.3992  -2.505   0.0183 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 1.093 on 28 degrees of freedom
Multiple R-squared:  0.1831,      Adjusted R-squared:  0.1539
F-statistic: 6.275 on 1 and 28 DF,  p-value: 0.01834
```

$percent_clay

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

Min	1Q	Median	3Q	Max
-12.627	-4.050	1.373	2.955	9.873

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	17.520	1.424	12.306	8.21e-13	***
ManagementECO	6.607	2.013	3.281	0.00277	**

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 5.514 on 28 degrees of freedom

Multiple R-squared: 0.2777, Adjusted R-squared: 0.2519

F-statistic: 10.77 on 1 and 28 DF, p-value: 0.00277

$percent_silt

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

Min	1Q	Median	3Q	Max
-16.8333	-7.6250	0.4333	8.1667	17.5667

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	36.533	2.544	14.359	1.93e-14	***
ManagementECO	5.367	3.598	1.492	0.147	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 9.854 on 28 degrees of freedom

Multiple R-squared: 0.0736, Adjusted R-squared: 0.04052

F-statistic: 2.225 on 1 and 28 DF, p-value: 0.147

$percent_sand

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

Min	1Q	Median	3Q	Max
-23.873	-10.517	-2.023	9.277	23.327

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	45.947	3.716	12.363	7.35e-13	***
ManagementECO	-11.973	5.256	-2.278	0.0306	*

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 14.39 on 28 degrees of freedom

Multiple R-squared: 0.1564, Adjusted R-squared: 0.1262

F-statistic: 5.19 on 1 and 28 DF, p-value: 0.03055

$C_N

Call:

lm(formula = Value ~ Management, data = i)

Residuals:

Min	1Q	Median	3Q	Max
-3.6449	-0.8798	-0.4816	0.9490	2.8604

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	8.3331	0.4157	20.044	< 2e-16	***
ManagementECO	-2.7481	0.5879	-4.674	6.76e-05	***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.61 on 28 degrees of freedom

Multiple R-squared: 0.4383, Adjusted R-squared: 0.4182

F-statistic: 21.85 on 1 and 28 DF, p-value: 6.761e-05