

Full-season cover crops and their traits that promote agroecosystem services

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Supplementary Materials

Table S1. Spearman correlations among microbial community characteristics.

Values above the grey shaded cells are the correlation coefficient and values below are the level of significance (p -value). Bold values highlight significant correlations ($p < 0.05$). Cells highlighted in blue show correlations among fungal indices (F.), cells highlighted in yellow show correlations among bacterial community indices (B.) and cells highlighted in green show correlations among bacterial and fungal indices.

	Fungi					Bacteria				
	Rich	Even	AMF	Path.	Sapr.	Rich.	Even.	Rhizo.	Cyan.	Nitr.
F. Richness		0.251	0.201	0.457	0.179	0.005	0.072	0.010	-0.038	-0.005
F. Evenness	0.026		0.543	0.096	0.219	0.284	0.316	-0.069	0.210	0.354
F. AMF	0.076	<0.001		0.045	0.164	0.413	0.351	-0.117	0.199	0.477
F. Pathogen	<0.001	0.402	0.693		0.117	-0.116	-0.068	0.084	-0.093	-0.132
F. Sapr.	0.114	0.052	0.148	0.303		0.253	0.043	0.194	0.141	0.247
B. Richness	0.966	0.011	<0.001	0.309	0.025		0.349	0.411	0.467	0.923
B. Evenness	0.528	0.005	0.002	0.550	0.704	0.001		-0.476	0.262	0.453
B. Rhizob	0.930	0.548	0.303	0.463	0.087	<0.001	<0.001		0.151	0.232
B. Cyan	0.741	0.063	0.079	0.417	0.217	<0.001	0.014	0.160		0.428
B. Nitrifying	0.963	0.001	<0.001	0.248	0.028	<0.001	<0.001	0.030	<0.001	

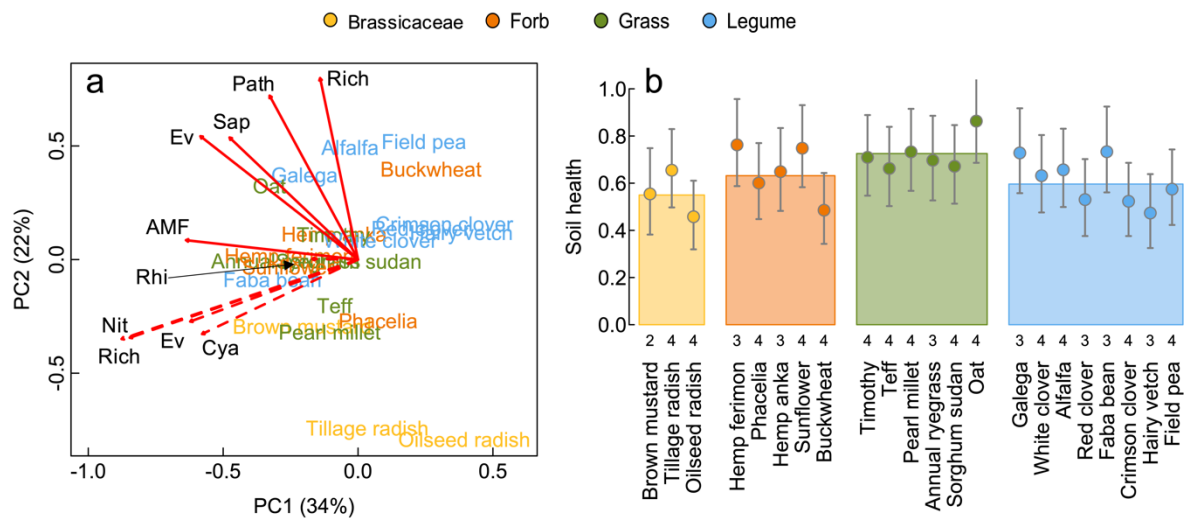


Figure S1. (a) Principal coordinate ordination of the 10 soil microbial community characteristics. Red arrows are the scaled eigenvectors with solid arrows indicating fungal and dashed bacterial community characteristics: microbial richness (Rich), evenness (Ev), arbuscular mycorrhizal fungi (AMF), saprotrophic fungi (Sap), Plant pathogenic fungi (Path), Rhizobia (Rhi), Nitrifying bacteria (Nit) and Cyanobacteria (Cya). Names of cover crops are positioned at their centroid and colored by functional group. (b) the scaled average of the soil microbial community characteristics representing the ecosystem service “soil health”. Note plant fungal pathogens were inverted prior to averaging. Points show means and error bars are model estimates standard errors for the comparison among crop means. The colored bars show overall mean for each plant functional group (indicated by the different colors). Numbers below each mean are the number of replicates used.

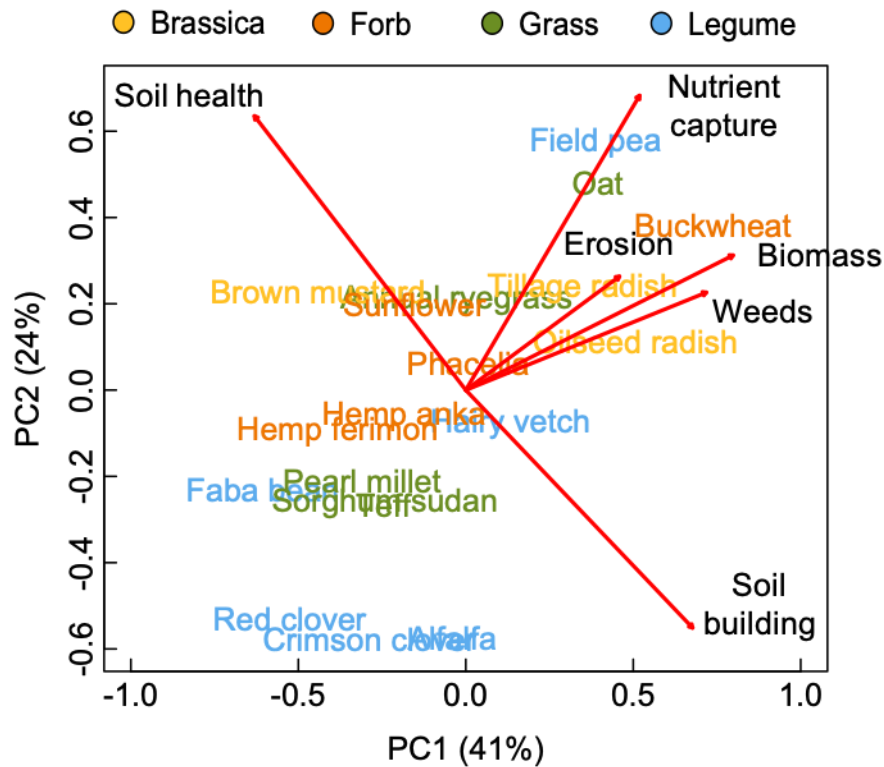


Figure S2. Principal coordinate ordination of the six ecosystem services illustrating the variation among crops in their abilities to promote ecosystem services and the association and trade-offs among ecosystem services (see **Table 4** for correlation coefficients). Red arrows are the scaled eigenvectors showing the association of ecosystem services, labeled in black text, with first two PC axes. Names of cover crops are positioned at their centroid and colored by functional group.