



Non-parametric analysis of pairwise dissimilarities (PERMANOVA results)

Source of variance	Df	SS	MS	F	R ²	P
Crop	1	408.0	408.0	76.7	0.03	0.001
Residuals	238	1265.2	5.32		0.97	
Total	239	1673.0			1	

Source of variance	Df	SS	MS	F	R ²	P
Soil type (ST)	3	309.6	103.2	19.6	0.19	0.001
Habitat Type (HT)	1	1.1	1.1	0.2	0.00	0.940
Growth Stage (GS)	2	57.2	28.6	5.4	0.03	0.001
STxHT	3	4.0	1.3	0.2	0.00	0.996
STxGS	6	138.1	23.1	4.37	0.08	0.001
HTxGS	2	6.2	3.1	0.6	0.00	0.635
STxHTxGS	6	19.62	3.3	0.62	0.01	0.730
Residuals	216	1137.2	5.3		0.69	
Total	239	1673.0			1	

Crop was considered a random factor.

Abbreviations: Df, degrees of freedom; F, F-test statistic; MS, mean squares; P, proportion of randomization trials with more extreme values of F; R, variation explained; SS, sums of squares.

Supplementary data Fig. S7. PCoA of post-planting soil parameters, using Euclidean distances with standardized data, and PERMANOVA tables. LB, Limpopo black; LR, Limpopo red; FN, Free State new; FO, Free State old. So, sorghum; Su, sunflower.