

Supplementary Table S2: MANOVA results of 17 traits f 10 Quinoa genotypes evaluated at cutting and spacing levels for two years. Pillai's trace test was used to get a cumulative significance value for the studied main effects and interactions.

Source	Df	Pillai trace value	approx. f	NUM df	den df	Pr(>F)
Cut	2	1.8217751	207.4419537	34	690	0.000
Space	2	0.5090467	6.9288909	34	690	0.000
Gen	9	3.6139511	13.8933100	153	3168	0.000
Year	1	0.4012347	13.5597430	17	344	0.000
Cut:Space	4	0.4130040	2.3501953	68	1388	0.000
Cut:Gen	18	3.8200224	5.7967054	306	6120	0.000
Space:Gen	18	1.5070023	1.9453979	306	6120	0.000
Cut:Year	2	0.7633995	12.5283145	34	690	0.000
Space:Year	2	0.1004934	1.0736603	34	690	0.358
Gen:Year	9	0.8467700	2.1504507	153	3168	0.000
Cut:Space:Gen	36	2.1155238	1.4212954	612	6120	0.000
Cut:Space:Year	4	0.1413671	0.7478171	68	1388	0.937
Cut:Gen:Year	18	1.4748565	1.8999587	306	6120	0.000
Space:Gen:Year	18	0.6921491	0.8488538	306	6120	0.972
Cut:Space:Gen:Year	36	1.2067424	0.7640871	612	6120	1.000
Residuals	360					

Note: Df: degree of freedom, Approx. f: Approximate F-value, NUM df: number of degrees of freedom, Den df: model errors associated degrees of freedom