

Table S1 Analysis of variance (F-values) from growth and photosynthetic traits of quinoa at different stages and N levels and yield traits at different N levels

Source	Plant height		Stem diameter		SPAD		<i>Pn</i>	
	2020	2021	2020	2021	2020	2021	2020	2021
Stage	1028.1***	3666.6***	238.4***	220.5***	148.4***	366.7***	152.5***	422.0***
Nitrogen	3.58*	18.5***	2.18ns	2.10ns	4.94**	13.72***	5.87**	8.35***
S x N	0.10ns	0.82ns	0.13ns	0.32ns	1.93ns	5.91***	0.77ns	2.08ns
Source	<i>E</i>		<i>Ci</i>		<i>gs</i>			
	2020	2021	2020	2021	2020	2021	2020	2021
Stage	182.7***	492.6***	76.3***	135.4***	210.1***			809.1***
Nitrogen	3.05*	9.73***	10.26***	19.62***	2.51ns			7.85***
S x N	0.26ns	1.05ns	0.30ns	0.70ns	0.16ns			0.84ns
Source	Number of branches		Grain weight		Grain yield			
	2020	2021	2020	2021	2020	2021	2020	2021
Nitrogen	0.85ns	0.84ns	5.67*	5.18*	7.74**			11.2**

*, **, *** showed significance at 0.05, 0.01, and 0.001 probability from analysis of variance.