10.1071/FP24029

Functional Plant Biology

Supplementary Material

Silicon mitigates salinity effects on sorghum-sudangrass (*Sorghum bicolor* × *Sorghum sudanense*) by enhancing growth and photosynthetic efficiency

Farah Bounaouara[A], *Rabaa Hidri*[A], *Mohammed Falouti*[A], *Mokded Rabhi*[A,B], *Chedly Abdelly*[A], *Walid Zorrig*[A,*], *and Inès Slama*[A]

[A]Laboratory of Extremophile Plants, Centre of Biotechnology of Borj-Cedria, P. O. Box 901, Hammam-Lif 2050, Tunisia.

[B]Department of Plant Production, College of Agriculture and Food, Qassim University, Buraydah, Saudi Arabia.

[*]Correspondence to: Walid Zorrig Laboratory of Extremophile Plants, Centre of Biotechnology of Borj-Cedria, P. O. Box 901, Hammam-Lif 2050, Tunisia Email: zorrigwalid@gmail.com, walid.zorrig@cbbc.rnrt.tn

Supplementary Table S1. Pearson's correlation matrix analyzing the correlation coefficients (*r*) between the different variables studied; treatments considered as qualitative variables (control, Si, NaCl and NaCl + Si) and the different parameters studied considered as quantitative variables. Negative correlations are presented in blue, while positive correlations are presented in red. The color intensity is proportional to the correlation coefficient value, with the corresponding scale located to the left of the table. Asterisks indicate statistically significant correlations (*: indicates a significant correlation at a significance level alpha ≤ 0.05; **: indicates a significant correlation at a significance level alpha ≤ 0.01; ***: indicates a significant correlation at a significance level alpha ≤ 0.001).

-1
-0.9
-0.8
-0.7
-0.6
-0.5
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

Variables	C	Si	NaCl	NaCl + Si
Root Fresh Weight	0.12	-0.12	-0.70	0.70
Stem Fresh Weight	-0.39	0.39	-0.72	0.72
Leaf Fresh Weight	**-0.91** *	**0.91** *	**-0.89** *	**0.89** *
Shoot Fresh Weight	-0.65	0.65	**-0.82** *	**0.82** *
Whole Plant Fresh Weight	-0.61	0.61	**-0.82** *	**0.82** *
Root Water Content	-0.02	0.02	**-0.96** **	**0.96** **
Stem Water Content	0.68	-0.68	**0.83** *	**-0.83** *
Leaf Water Content	0.53	-0.53	**-0.96** **	**0.96** **
Shoot Water Content	-0.08	0.08	**-0.86** *	**0.86** *
Whole Plant Water Content	0.24	-0.24	**-0.89** *	**0.89** *
Chlorophyll *a*	-0.47	0.47	**-0.93** ***	**0.93** ***
Chlorophyll *b*	-0.71	0.71	**-0.98** ***	**0.98** ***
Carotenoid	**0.73** *	**-0.73** *	**-0.81** *	**0.81** *
Total chlorophyll	-0.57	0.57	**-0.96** ***	**0.96** ***
Internal CO_2 concentration (*Ci*)	**-0.99** **	**0.99** **	**-0.76** **	**0.76** **
Transpiration rate (*E*)	-0.20	0.20	**-0.66** ***	**0.66** ***
Net CO_2 assimilation (*A*)	-0.36	0.36	**-0.91** ***	**0.91** ***
Water use effeciency (*WUE*)	**-0.39** *	**0.39** *	**-0.94** ***	**0.94** ***
Fv/Fm	0.36	-0.36	**-0.80** **	**0.80** **
F0	**-0.50** *	**0.50** *	0.12	-0.12
Fm	**-0.59** **	**0.59** **	**-0.79** **	**0.79** **
P700ox	0.06	-0.06	**-0.95** ***	**0.95** ***
P700m	0.04	-0.04	**-0.74** **	**0.74** **
Root Proline Content	-0.57	0.57	**0.83** *	**-0.83** *
Leaf Proline Content	-0.49	0.49	**0.98** *	**-0.98** *
Root Na^+ content	**-0.97** ***	**0.97** ***	**0.83** *	**-0.83** *
Stem Na^+ content	**-0.86** ***	**0.86** ***	**0.80** *	**-0.80** *
Leaf Na^+ content	-0.41	0.41	**0.95** **	**-0.95** **
Root Cl^- content	-0.29	0.29	**0.92** **	**-0.92** **
Stem Cl^- content	**-0.71** *	**0.71** *	**0.80** *	**-0.80** *
Leaf Cl^- content	-0.25	0.25	**0.93** **	**-0.93** **
Root K^+ content	0.69	-0.69	-0.13	0.13
Stem K^+ content	**0.75** **	**-0.75** **	-0.23	0.23
Leaf K^+ content	0.42	-0.42	0.00	0.00
Leaf Na^+/K^+ ratio	-0.61	0.61	**0.97** **	**-0.97** **
Stem Na^+/K^+ ratio	**-0.91** ***	**0.91** ***	**0.95** ***	**-0.95** ***
Root Na^+/K^+ ratio	0.12	-0.12	0.43	-0.43