

Supplementary Materials

Table S1. Morphological and growth traits of maize at different levels of salinity and salicylic acid.

Source	Plant height (cm)	Leaf number	Leaf DW	Stem DW	Shoot DW	Root DW	R:S
(g plant ⁻¹)							
Salinity							
0	64.1 a	5.6 a	1.79 a	3.27 a	5.05 a	1.61 a	0.32 b
6 dS m ⁻¹	57.8 b	5.0 b	1.29 b	3.29 a	4.58 b	1.45 b	0.32 b
12 dS m ⁻¹	53.6 c	4.3 c	1.17 c	2.60 b	3.76 c	1.35 c	0.36 a
<i>P</i>	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**
SA							
0	54.4 c	4.2 c	1.31 c	2.88 c	4.19 c	1.38 c	0.33
300 mM	58.3 b	5.0 b	1.42 b	3.05 b	4.47 b	1.47 b	0.33
600 mM	62.8 a	5.7 a	1.51 a	3.22 a	4.73 a	1.57 a	0.33
<i>P</i>	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	0.897
Salinity × SA							
0 / 0	60.3 cd	4.7	1.67	3.17 cd	4.85 c	1.51	0.31
0 / 300	64.3 b	5.7	1.81	3.27 bc	5.08 b	1.61	0.32
0 / 600	67.7 a	6.3	1.88	3.36 b	5.24 a	1.70	0.32
6 / 0	54.7 ef	4.3	1.18	3.09 d	4.27 e	1.36	0.32
6 / 300	57.3 de	5.0	1.29	3.30 b	4.59 d	1.45	0.32
6 / 600	61.4 bc	5.7	1.39	3.49 a	4.87 c	1.54	0.32
12 / 0	48.2 g	3.7	1.06	2.39 g	3.46 h	1.26	0.36
12 / 300	53.2 f	4.3	1.17	2.57 f	3.74 g	1.34	0.36
12 / 600	59.3 cd	5.0	1.26	2.83 e	4.09 f	1.46	0.36
<i>P</i>	0.028*	0.057 n.s.	0.936 n.s.	< 0.001**	< 0.001**	0.791 n.s.	0.186 n.s.
C.V. (%)	2.0	2.0	2.3	1.4	1.2	2.0	2.0

SA, salicylic acid; DW, dry weight; R:S, root to shoot ratio; n.s., * and ** indicate non-significant and significant at $P \leq 0.05$ and $P \leq 0.01$, respectively. Different letters indicate statistical differences (Tukey test at $P \leq 0.05$).

Table S2. Leaf water status and leaf pigments in maize at different levels of salinity and salicylic acid.

Source	RWC	EL	Chl. <i>a</i>	Chl. <i>b</i>	Carotenoids	Anthocyanin
	(%)		(mg g ⁻¹ FW)			
Salinity						
0	64.4 a	31.2 b	1.77 a	1.31 a	0.59 a	0.38 a
6 dS m ⁻¹	50.6 b	39.4 a	1.57 b	1.03 b	0.52 b	0.34 b
12 dS m ⁻¹	44.8 c	41.5 a	1.45 c	0.67 c	0.45 c	0.28 c
<i>P</i>	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**
SA						
0	48.6 c	42.2 a	1.50 c	0.81 c	0.48 c	0.31 c
300 mM	53.2 b	37.1 b	1.60 b	1.00 b	0.52 b	0.34 b
600 mM	57.9 a	32.8 c	1.70 a	1.19 a	0.56 a	0.36 a
<i>P</i>	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**
Salinity × SA						
0 / 0	59.1 c	34.2 cde	1.67	1.12	0.54 c	0.36 c
0 / 300	64.2 b	30.7 de	1.77	1.31	0.59 b	0.39 b
0 / 600	69.9 a	28.9 e	1.87	1.49	0.64 a	0.41 a
6 / 0	46.0 g	45.7 a	1.47	0.85	0.48 e	0.32 e
6 / 300	50.7 e	38.7 bc	1.57	1.03	0.52 d	0.35 d
6 / 600	54.9 d	33.7 cde	1.67	1.21	0.57 b	0.37 c
12 / 0	40.7 h	46.8 a	1.36	0.48	0.43 f	0.26 h
12 / 300	44.7 g	41.9 ab	1.45	0.66	0.44 f	0.27 g
12 / 600	48.8 f	35.7 cd	1.55	0.85	0.47 e	0.30 f
<i>P</i>	0.026*	0.046*	0.972 n.s.	0.992 n.s.	0.333 n.s.	0.026*
C.V. (%)	1.2	5.0	1.0	2.2	1.3	1.1

SA, salicylic acid; FW, fresh weight; RWC, relative water content; EL, electrolyte leakage; Chl. *a* and *b*, chlorophyll *a* and *b*, respectively; n.s., * and ** indicate non-significant and significant at $P \leq 0.05$ and $P \leq 0.01$, respectively. Different letters indicate statistical differences (Tukey test at $P \leq 0.05$).

Table S3. Antioxidant enzymes and oxidative stress markers in maize at different levels of salinity and salicylic acid.

Source	POD	CAT	APX	Vitamin C	H ₂ O ₂	MDA
	(U mg ⁻¹ prot.)			(mg g ⁻¹ FW)	(nmol g ⁻¹ FW)	
Salinity						
0	4.00 c	0.65 c	22.1 c	4.50 c	6.49 c	5.20 c
6 dS m ⁻¹	5.00 b	0.84 b	33.0 b	5.45 b	7.39 b	5.51 b
12 dS m ⁻¹	5.74 a	1.18 a	47.6 a	6.44 a	8.66 a	5.61 a
<i>P</i>	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**
SA						
0	4.01 c	0.82 c	31.0 c	4.43 c	7.82 a	5.59 a
300 mM	5.00 b	0.90 b	34.5 b	5.45 b	7.50 b	5.45 b
600 mM	5.73 a	0.95 a	37.3 a	6.52 a	7.22 c	5.28 c
<i>P</i>	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**
Salinity × SA						
0 / 0	3.21 e	0.59 g	19.1 i	3.49 i	6.87	5.32 de
0 / 300	4.09 d	0.67 f	22.4 h	4.49 g	6.39	5.22 e
0 / 600	4.70 c	0.69 f	25.0 g	5.53 d	6.22	5.06 f
6 / 0	3.94 d	0.76 e	28.9 f	4.40 h	7.65	5.65 b
6 / 300	5.03 c	0.82 d	33.7 e	5.43 e	7.43	5.48 c
6 / 600	6.03 b	0.95 c	36.4 d	6.51 b	7.08	5.39 cd
12 / 0	4.87 c	1.10 b	44.9 c	5.40 f	8.94	5.78 a
12 / 300	5.87 b	1.22 a	47.4 b	6.42 c	8.67	5.65 b
12 / 600	6.48 a	1.21 a	50.5 a	7.51 a	8.37	5.4 cd
<i>P</i>	0.030*	< 0.001**	0.008**	< 0.001**	0.314 n.s.	0.027*
C.V. (%)	3.1	1.3	1.4	0.1	1.4	0.8

SA, salicylic acid; FW, fresh weight; POD, peroxidase; CAT, catalase; APX, ascorbate peroxidase; MDA, malondialdehyde; U, units; n.s., * and ** indicate non-significant and significant at $P \leq 0.05$ and $P \leq 0.01$, respectively. Different letters indicate statistical differences (Tukey test at $P \leq 0.05$).

Table S4. Osmo-regulating compounds and hormones in maize at different levels of salinity and salicylic acid.

Source	Free a.a.	Sol. proteins	Sol. sugars	Proline	IAA	GA	ABA	Ethylene evolution
	(mg g ⁻¹ FW)							(pmol g ⁻¹ FW h ⁻¹)
Salinity								
0	2.00 a	6.29 a	11.2 c	0.60 c	26.5 c	82.0 a	41.5 c	72 c
6 dS m ⁻¹	1.78 b	5.55 b	15.1 b	0.74 b	28.5 b	64.7 b	44.8 b	145 b
12 dS m ⁻¹	1.61 c	4.57 c	17.2 a	0.93 a	33.1 a	49.8 c	48.8 a	167 a
<i>P</i>	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**
SA								
0	1.73 c	5.28 c	13.1 c	0.67 c	26.9 c	61.1 c	47.2 a	140 a
300 mM	1.80 b	5.48 b	14.7 b	0.76 b	29.8 b	65.7 b	44.9 b	127 b
600 mM	1.86 a	5.65 a	15.6 a	0.84 a	31.4 a	69.7 a	43.0 c	117 c
<i>P</i>	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**
Salinity × SA								
0 / 0	1.90 c	6.03 c	10.2 f	0.55	24.5	78.0	43.4	78 f
0 / 300	2.02 b	6.33 b	11.3 e	0.61	26.5	82.0	41.5	72 fg
0 / 600	2.08 a	6.50 a	12.0 e	0.65	28.6	86.0	39.5	65 g
6 / 0	1.72 f	5.33 f	13.4 d	0.65	26.7	60.0	46.7	155 bc
6 / 300	1.79 e	5.61 e	15.2 c	0.75	28.3	65.6	44.5	146 d
6 / 600	1.82 d	5.70 d	16.7 b	0.81	30.5	68.6	43.1	134 e
12 / 0	1.55 i	4.47 h	15.7 c	0.82	29.6	45.3	51.4	188 a
12 / 300	1.60 h	4.50 h	17.6 a	0.92	34.5	49.5	48.6	162 b
12 / 600	1.67 g	4.74 g	18.2 a	1.06	35.1	54.5	46.5	151 cd
<i>P</i>	< 0.001**	< 0.001**	0.002**	0.139 n.s.	0.710 n.s.	0.890 n.s.	0.834 n.s.	< 0.001**
C.V. (%)	0.5	0.6	2.0	6.0	3.3	3.0		2.3

SA, salicylic acid; FW, fresh weight; Free a.a., free amino acids; IAA; indole-3-acetic acid; GA, gibberellic acid; ABA, abscisic acid; n.s., * and ** indicate non-significant and significant at $P \leq 0.05$ and $P \leq 0.01$, respectively. Different letters indicate statistical differences (Tukey test at $P \leq 0.05$).

Table S5. Sodium, potassium and calcium concentrations in plant organs of maize at different levels of salinity and salicylic acid.

Source	Na_R	Na_S	Na_L	K_R	K_S	K_L	Ca_R	Ca_S	Ca_L
(mg g ⁻¹ DW)									
Salinity									
0	1.8 c	3.5 c	2.0 c	24.7 a	30.8 a	18.2 a	63 a	90 a	89 a
6 dS m ⁻¹	14.0 b	15.5 b	8.2 b	18.5 b	23.0 b	15.0 b	53 b	80 b	77 b
12 dS m ⁻¹	15.5 a	24.8 a	9.6 a	16.4 c	16.3 c	12.2 c	44 c	67 c	60 c
<i>P</i>	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**
SA									
0	11.4 a	16.3 a	7.1 a	18.7 c	21.5 c	13.4 c	48 c	74 c	64 c
300 mM	10.3 b	14.7 b	6.5 b	19.7 b	22.9 b	15.3 b	54 b	79 b	76 b
600 mM	9.6 c	12.8 c	6.1 c	21.1 a	25.8 a	16.7 a	58 a	83 a	86 a
<i>P</i>	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**	< 0.001**
Salinity × SA									
0 / 0	2.5 f	4.0 g	2.2 f	23.0	29.4	17.0 b	58	86	79
0 / 300	1.6 g	3.7 gh	1.9 f	24.5	30.8	18.4 a	63	91	90
0 / 600	1.5 g	2.7 h	1.8 f	26.5	32.3	19.2 a	68	93	99
6 / 0	15.4 b	17.7 d	8.8 c	17.6	20.8	13.2 d	47	74	65
6 / 300	13.8 d	15.3 e	8.2 d	18.4	22.7	15.4 c	55	80	79
6 / 600	12.9 e	13.6 f	7.6 e	19.5	25.6	16.5 b	58	84	87
12 / 0	16.3 a	27.3 a	10.4 a	15.6	14.2	10.1 f	39	61	48
12 / 300	15.6 b	25.1 b	9.45 b	16.3	15.1	12.1 e	45	68	60
12 / 600	14.5 c	22.1 c	8.97 bc	17.2	19.4	14.5 c	50	73	72
<i>P</i>	< 0.001**	< 0.001**	0.002**	0.108 n.s.	0.263 n.s.	< 0.001**	0.655 n.s.	0.156 n.s.	0.425 n.s.
C.V. (%)	1.6	2.8	2.7	3.0	4.8	2.3	3.1	1.9	3.1

SA, salicylic acid; _R, _S and _L indicate element concentration in roots, stem and leaves, respectively; n.s., * and ** indicate non-significant and significant at $P \leq 0.05$ and $P \leq 0.01$, respectively. Different letters indicate statistical differences (Tukey test at $P \leq 0.05$).

Table S6. Magnesium and chloride concentration in plant organs of maize at different levels of salinity and salicylic acid.

Source	Mg_R	Mg_S	Mg_L	Cl_R	Cl_S	Cl_L
(mg g ⁻¹ DW)						
Salinity						
0	55.2 a	71.7 a	64.5 a	1.8 c	5.1 c	1.2 c
6 dS m ⁻¹	46.0 b	59.1 b	56.7 b	17.8 b	25.4 b	24.1 b
12 dS m ⁻¹	39.1 c	49.5 c	47.0 c	19.7 a	42.8 a	25.4 a
<i>P</i>	<0.001**	<0.001**	<0.001**	< 0.001**	< 0.001**	< 0.001**
SA						
0	43.1 c	55.8 c	52.5 c	14.5 a	26.5 a	18.2 a
300 mM	47.3 b	60.1 b	56.1 b	13.0 b	24.6 b	16.9 b
600 mM	49.7 a	64.7 a	59.5 a	11.8 c	22.1 c	15.6 c
<i>P</i>	<0.001**	<0.001**	<0.001**	< 0.001**	< 0.001**	< 0.001**
Salinity × SA						
0 / 0	51.8	67.4	61.4	1.98 e	6.8 e	1.33 f
0 / 300	55.7	70.9	64.1	1.84 e	4.8 ef	1.11 f
0 / 600	57.9	77.1	67.8	1.72 e	3.6 f	1.04 f
6 / 0	43.5	55.2	53.4	19.5 b	27.1 c	25.6 b
6 / 300	45.9	59.0	56.2	17.6 c	25.7 c	24.3 cd
6 / 600	48.6	63.1	60.2	16.2 d	23.4 d	22.3 e
12 / 0	34.3	44.7	42.6	22.1 a	45.5 a	27.6 a
12 / 300	40.6	50.3	47.9	19.5 b	43.5 a	25.2 bc
12 / 600	42.5	53.8	50.4	17.6 c	39.4 b	23.4 d
<i>P</i>	0.186 n.s.	0.544 n.s.	0.830 n.s.	< 0.001**	0.019*	< 0.001**
C.V. (%)	3.5	2.6	3.8	1.9	3.2	2.2

SA, salicylic acid; _R, _S and _L indicate element concentration in roots, stem and leaves, respectively; n.s., * and ** indicate non-significant and significant at $P \leq 0.05$ and $P \leq 0.01$, respectively. Different letters indicate statistical differences (Tukey test at $P \leq 0.05$).

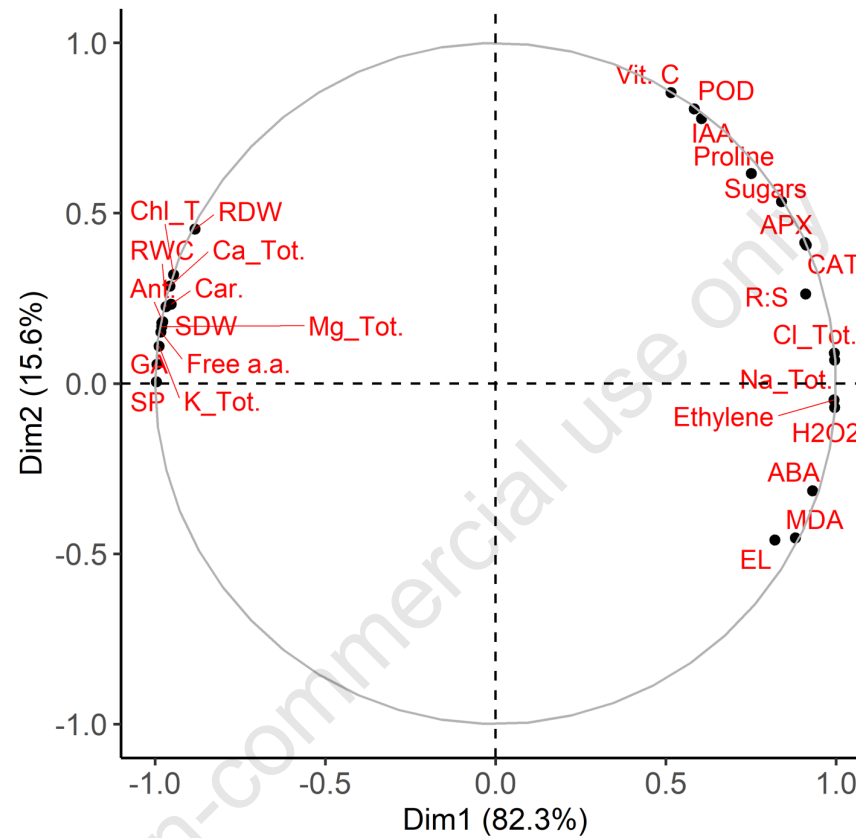


Figure S1. PCA correlation circle of quantitative variables. The amount of variation explained by the two principal components (Dim1 and Dim2) is indicated in brackets. ABA, abscisic acid; Ant., antocyan; APX, ascorbate peroxidase; Ca_T, total (i.e., whole plant) Ca concentration; Car., carotenoids; CAT, catalase; Chl_T, total (i.e., $a + b$) chlorophyll content; Cl_T, total Cl concentration; EL, electrolyte leakage; Free a.a., free amino acids; GA, gibberellic acid; Mg_T, total Mg concentration; IAA, indole-3-acetic acid; K_T, total K concentration; MDA, malondialdehyde; Na_T, total Na concentration; POD, peroxidase; R:S, root to shoot; RDW, root dry weight; RWC, relative water content; SDW, shoot sry weight; SP, soluble proteins.