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Inducing salt tolerance in castor bean through seed priming

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Supplementary Table 1. Summary of the results of the ANOVA for the main effects of salinity on seed germination (G), dead seeds (DS), non-germinated seeds (NGS), normal seedlings (NP), germination speed index (GSI), average time of germination (ATG), root DM (RDM), hypocotyl DM (HDM), root/hypocotyl DM ratio (RDM/HDM), root length (RL), hypocotyl length (HL), root/hypocotyl length ratio (RL/HL), sodium (Na^+) and potassium (K^+) content and K^+/Na^+ content ratio in the roots and hypocotyl of castor bean seeds subjected to different values of Ψs obtained with NaCl salt

Source of variation	*df*	Mean Square					
		G	DS	NGS	NP	GSI	ATG
Salinity	4	4012.7**	3*	3805.7**	4343.3**	90.77**	11.31**
Error	15	49.73	0.73	49.93	62.53	0.90	1.36
CV (%)		13.16	171.27	15.40	15.75	13.42	13.53
Source of variation	*df*	Mean Square					
		RDM	HDM	RDM/HDM	RL	HL	RL/HL
Salinity	3	65.30**	392.99**	1.11**	625.21**	949.29**	417.02**
Error	11	1.78	3.15	0.11	8.31	5.09	2.26
CV (%)		21.63	12.16	51.26	42.80	43.59	72.4
Source of variation	*df*	Mean Square					
		Root			Hypocotyl		
		Na^+	K^+	K^+/Na^+	Na^+	K^+	K^+/Na^+
Salinity	3	632054**	73447**	13.7**	174683**	3920.94**	65.28**
Error	11	1394.11	9129.78	0.018	1512.97	597.60	0.89
CV (%)		6.06	21.97	7.4	15.45	13.50	33.52

* $p < 0.05$; ** $p < 0.01$; ^{ns} $p > 0.05$

Supplementary Table 2. Summary of the results of the ANOVA for the main effects of salinity and time on fresh mass of castor bean seeds subjected to different values of Ψs obtained using NaCl salt

Source of variation	*df*	Mean Square Wet mass	Source of variation	*df*	Mean Square Wet mass
Salinity (S)	3	0.148448**	S / 132h	3	0.099109**
Time (T)	24	0.139922**	S / 144h	3	0.134580**
S x T	72	0.006417**	S / 156h	3	0.170922**
S / 0h	3	0^{ns}	S / 168h	3	0.275835**
S / 1h	3	0.001304^{ns}	S / 180h	3	0.294480**
S / 3h	3	0.001693^{ns}	S / 192h	3	0.342410**
S / 6h	3	0.002958^{ns}	S / 204h	3	0.386110**
S / 12h	3	0.001269^{ns}	S / 216h	3	0.560261**
S / 24h	3	0.005056^{ns}	S / 228h	3	0.770868**
S / 36h	3	0.004944^{ns}	S / 240h	3	0.933924**
S / 48h	3	0.004792^{ns}	S / 252h	3	1.130545**
S / 60h	3	0.003568^{ns}	T/ 0.0 MPa	24	1.446836**
S / 72h	3	0.005436^{ns}	T/ -0.2 MPa	24	0.587753**
S / 84h	3	0.006392^{ns}	T/ -0.4 MPa	24	0.371084**
S / 96h	3	0.016550^{ns}	T/ -0.6 MPa	24	0.349136**
S / 108h	3	0.031344^{ns}	Error	900	0.017887
S / 120h	3	0.048145**	CV (%)		2.65

* $p < 0.05$; ** $p < 0.01$; ^{ns} $p > 0.05$

Supplementary Table 3. Summary of the results of the ANOVA for electrical conductivity (EC), normal seedlings (NP), hypocotyl length (HL), root length (RL), root/hypocotyl length ratio (RL/HL), hypocotyl DM (HDM), root DM (RDM) and root/hypocotyl DM ratio (RDM/HDM) of castor bean seeds not primed and primed with H_2O, NaCl, $CaCl_2$, KCl, $NaNO_2$, $NaNO_3$, KH_2PO_4, $NaSiO_3$, PEG-6000 or H_2O_2

Source of variation	*df*	Mean Square			
		EC	NP	HL	RL
Priming	10	1055.42**	505.81*	49.11*	105.63**
Error	44	49.49	201.81	20.80	33.51
CV (%)		11.11	29.71	52.46	48.88
Source of variation	*df*	Mean Square			
		RL/HL	HDM	RDM	RDM/HDM
Priming	10	3.23**	1630.68**	143.66ns	0.026**
Error	44	1.20	248.83	89.43	0.004
CV (%)		67.48	12.73	22.03	18.72

* $p < 0.05$; ** $p < 0.01$; ns $p > 0.05$

Supplementary Table 4. Summary of the results of the ANOVA for the main effects of osmopriming on seed germination (G), dead seeds (DS), non-germinated seeds (NGS), normal seedlings (NP), germination speed index (GSI), average time of germination (ATG), root DM (RDM), hypocotyl DM (HDM), root/hypocotyl DM ratio (RDM/HDM), root length (RL), hypocotyl length (HL), root/hypocotyl length ratio (RL/HL), sodium (Na^+) and potassium (K^+) content and the K^+/Na^+ content ratio in roots and hypocotyl of castor bean seeds subjected an Ψs of -0.6 MPa obtained with NaCl salt

Source of variation	*df*	Mean Square					
		G	DS	NGS	NP	GSI	ATG
Priming	4	1083.15**	31.4**	1160**	781.85**	73.38**	19.07**
Error	35	52.54	4.68	54.94	71.68	1.22	0.31
CV (%)		13.65	47.06	17.52	18.53	14.26	7
Source of variation	*df*	Mean Square					
		RDM	HDM	RDM/HDM	RL	HL	RL/HL
Priming	4	108.62**	525.78**	0.00024**	148.46**	31.04**	54.66**
Error	35	4.41	10.95	0.000011	5.58	0.76	8.02
CV (%)		11.46	12.44	10.49	39.32	45.93	69.77

Source of variation	*df*	Mean Square					
		Root			Hypocotyl		
		Na^+	K^+	K^+/Na^+	Na^+	K^+	K^+/Na^+
Priming	4	13723ns	49175**	0.05**	6880*	5432**	0.0091ns
Error	35	17400	6375	0.002	1856	986	0.0034
CV (%)		11.22	12.12	8.05	10.62	11.79	8.89

* $p < 0.05$; ** $p < 0.01$; ns $p > 0.05$