

Growth and Element Uptake by Salt-Sensitive Crops under Combined NaCl and Cd Stresses

Gabrijel Ondrasek ^{1,*}, Zed Rengel ^{2,3}, Nada Maurović ¹, Nada Kondres ¹, Vilim Filipović ¹, Radovan Savić ⁴,
Boško Blagojević ⁴, Vjekoslav Tanaskovik ⁵, Cristian Meriño Gergichevich ⁶ and Davor Romić ¹

¹ Department of Soil Amelioration, University of Zagreb Faculty of Agriculture, 10000 Zagreb, Croatia; nmaurovic@agr.hr (N.M.); nkondres@agr.hr (N.K.); vfilipovic@agr.hr (V.F.); dromic@agr.hr (D.R.)

² School of Earth and Environment, University of Western Australia, Perth 6009, Australia; zed.rengel@uwa.edu.au

³ Institute for Adriatic Crops and Karst Reclamation, 21000 Split, Croatia

⁴ Department of Water Management, Faculty of Agriculture, University of Novi Sad, 21102 Novi Sad, Serbia; radovan.savic@polj.uns.ac.rs (R.S.); bosko.blagojevic@polj.uns.ac.rs (B.B.)

⁵ Faculty of Agricultural Sciences and Food, University of Ss. Cyril and Methodius in Skopje, 1000 Skopje, North Macedonia; vjekoslavtanaskovic@yahoo.com

⁶ Departamento de Producción Agropecuaria, Facultad de Ciencias Agropecuarias y Forestales, Universidad de La Frontera, Temuco 1145, Chile; cristian.merino@ufrontera.cl

* Correspondence: gondrasek@agr.hr

Table S1. Summary results of ANOVA for vegetative growth and yield parameters of test plant species. Strawberry was harvested 70 days and lettuce 30 days after salinity treatment commenced

Source	DF	F	p	F	p	F	p	F	p	F	p	F	p
		Strawberry										Lettuce	
		Marketable fruit number/plant		Total marketable fruit g/plant		Total runners number/plant		The longest runner cm		Leaf area cm ²		Head weight g/plant	
Cd	2	1.08	ns	2.07	ns	5.26	*	3.78	*	0.93	ns	8.87	*
NaCl	3	13	***	20	***	41	***	51.2	***	59	***	44	***
CdxNaCl	6	0.72	ns	0.53	ns	0.97	ns	1.39	ns	0.44	ns	1.82	ns

DF, degrees of freedom; *** at p<0.001; * at p<0.05; ns, not significant

Table S2. Summary results of ANOVA for dry matter (DM) percentage and element concentrations in strawberry and lettuce tissues 20, 30 and 40 days after salinity (DASAL) treatment commenced

Source	DF	F	p	F	p	F	p	F	p	F	p	F	p	F	p	F	p	F	p	F	p								
		DM		Na		Cl		Cd		Cu		Zn		DM		Na		Cl		Cd		Cu		Zn					
				Strawberry leaves 40 DASAL														Lettuce leaves 20 DASAL											
Cd	2	6.11	*	9.60	*	14	***	464	***	2.23	ns	4.38	*	0.44	ns	1.03	ns	0.24	ns	355	***	5.59	*	8.15	*				
NaCl	3	56	***	433	***	501	***	20	***	0.26	ns	14	***	4.63	*	194	***	327	***	17	***	87	***	124	***				
CdxNaCl	6	1.4	ns	4.4	*	1.7	ns	3.3	*	0.32	ns	2.2	ns	0.66	ns	0.79	ns	0.48	ns	3.4	*	1.5	ns	0.96	ns				
				Strawberry fruits														Lettuce leaves 30 DASAL											
Cd	2	0.73	ns	0.60	ns	4.01	*	203	***	5.43	*	7.15	*	0.93	ns	0.39	ns	1.13	ns	130	***	13.2	***	6.82	*				
NaCl	3	3.1	*	53	***	93	***	24	***	60	***	26	***	5.18	*	281	***	296	***	8.6	*	83	***	65	***				
CdxNaCl	6	0.22	ns	0.35	ns	1.5	ns	4.5	*	1.7	ns	1.9	ns	0.39	ns	0.53	ns	0.67	ns	2.6	*	1.60	ns	1.44	ns				

DF, degrees of freedom; *** p<0.001; * p<0.05; ns, not significant

Table S3. Summary results of ANOVA for K/Na, Ca/Na and Mg/Na concentration ratios in lettuce leaves 20 and 30 days after salinity (DASAL) treatment commenced, and in strawberry leaves 40 DASAL and fruits.

Source	DF	F	p	F	p	F	p	F	p	F	p	F	p
		K/Na		Ca/Na		Mg/Na		K/Na		Ca/Na		Mg/Na	
		Strawberry leaves 40 DASAL						Lettuce leaves 20 DASAL					
Cd	2	0.59	ns	0.16	ns	0.82	ns	1.0	ns	1.6	ns	2.1	ns
NaCl	3	166	***	86	***	163	ns	749	***	681	***	138	***
CdxNaCl	6	0.67	ns	0.14	ns	0.81	ns	1.2	ns	1.2	ns	1.8	ns
		Strawberry fruits						Lettuce leaves 30 DASAL					
Cd	2	2.0	ns	3.0	ns	1.72	ns	0.15	ns	1.9	ns	0.7	ns
NaCl	3	321	**	295	**	313	**	502	***	540	***	180	***
CdxNaCl	6	1.8	ns	2.2	ns	1.5	ns	0.17	ns	1.9	ns	0.8	ns

DF, degrees of freedom; *** p<0.001; * p<0.05; ns, not significant