

SUPPLEMENTARY FILE

to the paper

Quality assessment of irrigation water related to soil salinization in
Tierra Nueva, San Luis Potosí, Mexico

by

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Table S1. Results of the physicochemical analysis of the water samples from the Tierra Nueva area, San Luis Potosí, Mexico, collected in 2012 and 2013, and expressed as average, minimum and maximum values. Values of temperature (T, °C), water table (WT, m), electrical conductivity (EC, dS·m⁻¹), cations, anions and total dissolved solids (TDS) in mgL⁻¹ and standard deviation (SD). Below detection limit (BDL) is indicated.

	2012				2013			
	Average	Minimum	Maximum	SD	Average	Minimum	Maximum	SD
T	21.3	17.7	25	1.8	21	18.7	23.1	1.6
WT	2.6	0.3	8	2.2	3.5	0.4	8	2.4
PH	8	7.2	9.2	0.5	7.78	7	10	0.5
EC	1	0.3	3.8	0.7	0.8	0.3	2.7	0.6
TDS	762	193	2376	430	1104	362.4	4209	751
Na ⁺	155.2	14.3	800	160	158	17.8	793	172
Ca ²⁺	38.48	4.1	76.7	17.2	38	4.5	74.2	19
K ⁺	15.2	6.4	35.3	7.5	15.4	5.4	28	6.6
Mg ²⁺	9.6	1.6	17.4	4.6	8.3	0.7	15.6	4.2
Cl ⁻	5.9	1.6	15.3	4.6	43.4	8	114.4	28
SO ₄ ²⁻	37	1	92	25.4	52.8	8.2	131	32.5
PO ₄ ³⁻	0.64	0.1	3.4	0.8	BDL	BDL	BDL	BDL
F ⁻	1.9	0.5	5.7	1.2	2.01	0.3	7.1	1.53
NO ₃ ⁻	6.9	1	24	6.2	9.25	0.02	42	10.5
HCO ₃ ⁻	417.7	150	906	168	391.8	102	1098	199
CO ₃ ²⁻	30.5	BDL	540	115	334	150	510	180

Table S2. Water quality indices for water samples from the Tierra Nueva area, San Luis Potosí, Mexico, collected in 2012 and 2013. %Na: Sodium percentage; SSP: soluble sodium percentage; RSC: residual sodium carbonate; KR: Kelley ratio; SAR: sodium adsorption ratio CROSS: cation ratio of structural stability; TDS: total dissolved solids; PI: permeability index; MAR: magnesium adsorption ratio.

Sample	Cropland																		
	% Na		SSP		RSC		KR		SAR		CROSS		TDS		PI		MAR		
	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	
1	93.9	94.1	93.7	94.0	8.3	7.5	14.9	15.7	17.5	17.2	22.97	24.5	871	973	121.0	122.2	21.5	22.4	
2	70.6	73.2	69.0	71.4	4.8	4.2	2.2	2.5	4.4	4.9	4.22	4.5	630	728	109.8	108.3	36.0	33.5	
3	73.1	70.2	71.0	68.2	6.8	5.5	2.4	2.1	4.7	4.0	4.53	3.7	753	809	118.1	117.4	34.4	30.3	
4	76.6		75.9		6.8		3.2		6.9		4.76		946		106.5		19.5		
5	77.2	75.8	76.6	75.3	5.7	5.3	3.3	3.0	6.2	5.6	5.02	4.6	767	806	112.0	114.5	21.0	20.1	
6	84.9		84.4		6.3		5.4		8.9		8.54		780		116.5		23.3		
7	57.5	89.2	54.4	88.8	2.5	4.4	1.2	7.9	2.0	10.8	1.92	14.0	360	716	119.6	116.4	24.6	31.3	
8	72.6	75.8	70.4	74.2	5.0	5.0	2.4	2.9	4.7	5.4	4.60	5.3	664	808	110.6	112.5	37.1	33.5	
9	79.9		78.7		6.2		3.7		6.7		7.40		723		114.8		39.5		
10	83.9	81.9	82.2	80.1	5.5	4.8	4.6	4.0	7.6	6.4	8.04	6.6	689	626	116.8	118.4	29.9	25.7	
11	92.5	93.7	92.2	93.4	7.6	6.6	11.9	14.1	15.0	16.2	23.29	26.1	842	761	120.4	120.5	38.1	34.4	
12	93.3		92.9		9.3		13.2		16.5		27.46		948		121.4		41.8		
13	86.8	84.9	85.8	83.8	6.1	4.9	6.0	5.2	9.3	8.5	12.46	10.1	729	832	118.1	113.9	41.2	38.1	
14	95.5	98.4	95.4	98.3	8.1	13.4	20.6	58.4	21.1	42.2	60.43	110.8	874	1208	115.9	116.5	58.7	36.1	
15	99.5	99.6	99.5	99.6	23.7	26.4	207.0	244.5	120.0	129.9	412.80	372.7	2376	2813	110.5	111.8	39.2	20.4	
16	76.2		75.1		4.5		3.0		5.7		5.78		618		110.4		36.7		
17	66.7	63.7	64.4	61.9	4.4	5.1	1.8	1.6	3.6	3.6	3.05	2.6	571	670	110.4	105.0	27.9	23.5	
<i>Urban area</i>																			
18	51.8	55.2	47.5	50.4	2.1	2.2	0.9	1.0	1.3	1.9	1.3	1.5	275	451	134.0	107.4	18.0	17.5	
19	70.1	63.9	68.6	62.5	3.1	3.4	2.2	1.7	3.5	2.9	3.4	2.5	438	555	119.1	117.2	21.8	19.5	
20	62.3	62.9	59.7	59.8	2.3	2.9	1.5	1.5	2.6	2.6	2.2	2.2	415	479	110.3	117.0	19.1	18.7	
21	58.5	59.6	55.3	56.3	2.4	1.7	1.2	1.3	2.2	2.5	1.9	1.9	393	587	112.6	99.5	19.2	17.1	
<i>Dam</i>																			
22	49.9	52.8	44.1	46.1	1.7	0.8	0.8	0.9	1.0	1.2	1.2	1.3	207	247	155.3	123.0	19.3	20.4	
23		85.7		85.3		4.7		5.8		8.4		9.6		587		118.8		26.6	
24		80.2		77.6		5.5		3.5		5.4		7.5		706		115.8		43.7	