

**Table S1. The pre-planting and post-harvest soil analysis for 2018 and 2019 growing seasons**

Soil properties	Pre-planting		Post-harvest							
	2018	2019	NaCl (dSm <sup>-1</sup> ) levels 2018				NaCl (dSm <sup>-1</sup> ) 2019			
Physical properties			Control	5	7	9	Control	5	7	9
EC (dsm <sup>-1</sup> )	1.4	1.4	1.3	2.2	2.4	2.5	1.37	1.82	2.1	2.3
pH	8.1	8.2	8.2	7.89	7.87	7.88	8.3	8	7.97	7.99
Ca <sup>+2</sup> (mg/L)	90	89	90	500	675	879	88	542	712	912
Mg <sup>+2</sup> (mg/L)	0.14	0.13	14	90	120	148	15	89	132	158
Na <sup>+</sup> (mg/L)	19	20	20	960	1400	1700	19	879	1517	1817
K <sup>+</sup> (mg/L)	0.79	0.82	0.8	9.7	14	16	0.84	9.3	16	19
Cl <sup>-</sup> (mg/L)	24	23	23	1800	2429	2876	24	1789	2387	3012

ECe: Electrical conductivity of saturated soil paste extract

**Table S2. List of the ten Egyptian wheat cultivars used in the current experiment**

Cultivar	Pedigree
Sakha61	Inia / RL4220 // 7C / Yr"S".
Sakha93	Sakha 92/TR 810328 S 8871-1S-2S-1S-0S
Sakha94	OPTATA / RAYON // KAUZ.
Mir2	SKAUZ/BAV92. CMSS96M03611S-1M-010SY-010M-010SY-8M-0Y-0EGY
Giza164	KVZ / Buha "S" // Kal / Bb
Giza168	MRL / BUC / SERI.
Sakha8	Indus 66 × Norteno "S"-Pk 348
Gemmiza7	CMH 74A.630 / SX // SERI 8213/ Agent.
Gemmiza9	Ald "S" / Huac "S" // CMH 74A.630 /SX.
Gemmiza10	Maya74 "S" / On // 1160-147BB / GALL141CHAT"S" 151 CROW"S".

**Table S3. Analysis of variance for the number of days to flowering, plant height, grain yield, the number of tillers, grain weight per spike, and the number of kernels per spike as affected by salinity, genotypes and salinity × genotypes interactions across growing seasons**

Source of variance	d.f	No. of kernels per spike	Grain wt. per spike	No. of fertile tillers	Grain yield	Plant height	No. of days to flowering
Season	1	1.6	2.39	8.1	3.7	5.9	27.3
Replicate within Seasons	4	0.1	0.26	0.1	0.3	15.6	21.4
Salinity (S)	3	28.1**	406.35**	368.9**	348.1**	26174.1**	9629.6**
Error A	15	0.2	0.56	1.5	0.6	56.7	21.5
Genotypes (G)	9	6.1**	13.69**	14.6**	26.1**	217.8**	244.4**
G × S	27	0.7**	3.60**	5.8**	4.5**	61.8**	38.9**
Error B	180	0.08	0.7	0.56	0.33	25.2	4.7

\*\* Significant at 0.01 levels of probability

**Table S4. Analysis of variance for Na<sup>+</sup>, Ca<sup>+2</sup>, Mg<sup>+2</sup>, K<sup>+</sup>, K/Na ratio and Cl<sup>-</sup> as affected by salinity, cultivars and salinity × genotypes interactions across growing seasons**

Source of variance	d.f	Cl <sup>-</sup>	K/Na	Mg <sup>+2</sup>	Ca <sup>+2</sup>	K <sup>+</sup>	Na <sup>+</sup>
Season	1	18.5	0.12	0.01	2.4	14.3	2.7
Replicate within Seasons	4	1.2	0.01	0.44	0.8	0.4	2.4
Salinity (S)	3	1515.2**	25.33**	368.03**	1565.5**	2638.4**	6035.6**
Error A	15	5.6	0.03	0.51	1.4	2.3	24.3
Genotypes (G)	9	69.5**	3.73**	9.41**	28.5**	86.1**	443.4**
G × S	27	16.2**	0.32**	4.39**	7.5**	29.1**	42.3**
Error B	180	4.4	0.014	0.93	1.5	1.54	11.34

\*\* Significant at 0.01 levels of probability

**Table S5. The average performance of ten cultivars (G) over two growing seasons for the number of days to flowering, plant height, grain yield, the number of fertile tillers, number of kernels per spike and grain weight per spike obtained from multiple saline irrigation treatments (S)**

Traits	No. of days to flowering						Plant height (cm)						Grain yield (g)					
	Cultivars	0.5	5	7	9	Mean	%	0.5	5	7	9	Mean	%	0.5	5	7	9	Mean
Gemiza10	102.2	95.5	83	81	90.4	-20.7	107	92	65.5	58.7	80.7	-45	11	7.7	4.2	2.5	6.3	-77.5
Gemmiza7	106.3	99.4	81	79.9	91.6	-24.9	109	93	66.3	56.5	81.1	-48	9.7	5.6	4.1	2.8	5.5	-71.3
Gemmiza9	104.1	96.7	85	78.9	91.1	-24.2	97.1	90	64.8	58.4	77.6	-40	7.9	5.4	4.5	2.6	5.1	-67.3
Giza164	100.8	97.1	83	79.4	90.1	-21.2	102	97	68.2	56	80.8	-45	8.2	3.4	2.7	1.8	4	-78.6
Giza168	107.3	96.4	87	78.8	92.3	-26.5	100	83	68.3	57.8	77.3	-42	8.2	4.2	3	1.9	4.3	-76.5
Misr2	109.9	101	81	79.1	92.9	-28.1	107	92	67.4	56	80.7	-48	9.4	8	6.2	5.7	7.3	-39.4
Sakha61	109	102	87	78.1	94.1	-28.3	104	87	65.2	57	78.3	-45	7.1	4.1	2.7	2.4	4.1	-66.6
Sakha8	110.5	108	90	80.6	97	-27.1	94	82	61.7	54.2	73	-42	7.7	5.4	5.1	4.8	5.7	-38.2
Sakha93	114.6	111	92	84.1	100	-26.6	96.4	81	64.7	54.6	74.2	-43	7.7	5.5	4.8	3.9	5.5	-49.4
Sakha94	108	95.5	86	79.1	92.1	-26.8	110	88	69.5	58.4	81.5	-47	9.3	4.2	3.3	2.9	4.9	-69.2
Salinity mean	107.3	100	85	79.9	93.2	-25.5	103	89	66.2	56.7	78.5	-45	8.6	5.3	4.1	3.1	5.3	-63.9
HSD for G	4.4						4.6						0.5					
HSD for S	2.4						4						0.4					
HSD for G × S	6.2						5.3						0.6					

  

Traits	No. of fertile tillers						No. of kernels per spike						Grain wt. per spike (g)					
	Cultivars	0.5	5	7	9	Mean	%	0.5	5	7	9	Mean	%	0.5	5	7	9	Mean
Gemiza10	9.9	7.6	4	1.9	5.9	-81.1	9.5	7	3.1	2.1	5.4	-78	2.4	2	0.9	0.4	1.4	-82.6
Gemmiza7	8.9	5.7	4.5	2.2	5.3	-75.1	9.2	7.2	4.5	2.1	5.7	-78	2.3	1.8	1	0.5	1.4	-80.2
Gemmiza9	8.4	7.1	3.2	2.7	5.4	-68.3	7.3	5.1	2.8	2.2	4.3	-70	2.1	1.6	0.8	0.6	1.3	-72.2
Giza164	9.7	7.4	3.2	1.9	5.5	-80.3	9	5.2	3.3	2.1	4.9	-77	3.3	1.7	0.9	0.4	1.5	-88.6
Giza168	7.4	7	3.1	2.1	4.9	-71.8	8	4	2.7	1.8	4.1	-77	1.9	1.5	0.6	0.5	1.1	-71.9
Misr2	8.3	5.8	4.7	3.9	5.7	-53.5	9	7.6	5.2	3.5	6.3	-61	2.2	2.2	2	1.8	2.1	-18.8
Sakha61	7	3.3	2.3	1.3	3.5	-82.1	8.3	7	2.4	2.9	5.1	-66	2	1.8	0.8	0.4	1.2	-78.2
Sakha8	7.8	6.2	5.8	5	6.2	-36.3	8.2	6.3	5	4.3	6	-47	2.9	2.2	1.8	1.6	2.1	-43.6
Sakha93	7.9	6.3	5.5	4.8	6.1	-39.5	7.7	6.3	5	3.9	5.7	-50	2.9	3	2.8	2.1	2.7	-27
Sakha94	8.4	7.2	4.1	2.2	5.5	-74.3	9.5	8.1	4.1	3.2	6.2	-66	2.1	2.1	0.9	0.7	1.4	-69.3
Salinity mean	8.4	6.4	4.1	2.8	5.4	-66.9	8.6	6.4	3.8	2.8	5.4	-67	2.4	2	1.2	0.9	1.6	-62.5
HSD for G	0.7						0.8						0.3					
HSD for S	0.7						0.4						0.3					
HSD for G × S	1.2						1.4						0.5					

The reduction % was measured by comparing the 0.5 dSm<sup>-1</sup> to 9 dSm<sup>-1</sup>

**Table S6. Mean performance of the studied cultivars (G) across the two growing seasons for the concentrations of Ca<sup>+2</sup>, Mg<sup>+2</sup>, K<sup>+</sup>, Na<sup>+</sup>, Cl<sup>-</sup> and K/Na ratio obtained from multiple saline irrigation treatments (S)**

Cultivars	Ca <sup>+2</sup>						Mg <sup>+2</sup>						K <sup>+</sup>					
	0.5	5	7	9	Mean	%	0.5	5	7	9	Mean	%	0.5	5	7	9	Mean	%
Gemiza10	15.2	7.4	3.2	2.3	7	-84.9	13.8	9.7	8.5	8.2	10.1	-40.6	24.4	7.1	4.7	2.3	9.6	-90.6
Gemmiza7	16.8	7.5	3	2.9	7.6	-82.7	15	9.7	8.5	7.7	10.2	-48.7	21.4	7.1	4.7	2.3	8.9	-89.3
Gemmiza9	12.8	7.6	4.2	2.4	6.8	-81.3	11.9	9.7	8.6	8	9.6	-32.8	15.2	7.2	4.7	2.3	7.4	-84.9
Giza164	13.8	7.4	4	1.9	6.8	-86.2	12.7	9.8	8.9	7.7	9.8	-39.4	14.8	7.2	4.7	2.3	7.3	-84.5
Giza168	14.7	7.7	3.5	2.3	7.1	-84.4	13.1	9.9	8.7	8.2	10	-37.4	20	7.2	4.7	2.3	8.6	-88.5
Misr2	16.7	8.8	7	4.3	9.2	-74.3	17.1	10.8	9	7.4	11.1	-56.7	21.8	14.1	8.7	7.2	13	-67
Sakha61	9.2	5.9	2.1	2.1	4.8	-77.2	11.4	9.4	7.8	6.2	8.7	-45.6	11.8	7.3	4.7	2.3	6.5	-80.5
Sakha8	12.4	8.4	4.6	1.7	6.8	-86.3	12.6	9.5	8.2	7.9	9.6	-37.3	24.3	19.1	14.8	11.2	17.4	-53.9
Sakha93	13.6	9.1	4.8	4	7.9	-70.6	11.5	9.7	8.4	7.3	9.2	-36.5	16.6	11.9	7.8	6.2	10.6	-62.7
Sakha94	14.8	9.1	3.3	2	7.3	-86.5	13.1	10.8	8.3	6.9	9.8	-47.3	21.2	7.2	4.7	2.3	8.9	-89.2
Salinity mean	14	7.9	4	2.6	7.1	-81.5	13.2	9.9	8.5	7.6	9.8	-42.9	19.2	9.5	6.4	4.1	9.8	-78.7
HSD for G	2.4						1.3						0.9					
HSD for S	0.6						0.4						0.8					
HSD for G × S	1.3						1.8						0.9					
Traits	Na <sup>+</sup>						CL <sup>-</sup>						K/Na ratio					
Cultivars	0.5	5	7	9	Mean	%	0.5	5	7	9	Mean	%	0.5	5	7	9	Mean	%
Gemiza10	13.6	25.3	36.1	39.2	28.6	188.2	7.4	13.6	17.5	18.9	14.3	-154	1.8	0.3	0.1	0.1	0.6	-94.4
Gemmiza7	13.5	25.6	36.6	35.4	27.8	162.2	7	13.2	17.7	17.3	13.8	-148.1	1.6	0.3	0.1	0.1	0.5	-93.8
Gemmiza9	14.9	25.4	33.5	38.8	28.2	160.4	5.5	12.8	16.3	15.7	12.6	-188.4	1.1	0.3	0.1	0.1	0.4	-90.9
Giza164	15.2	25.5	33.9	33.5	27	120.4	7.6	13.1	16.5	17	13.5	-124.7	0.9	0.3	0.1	0.1	0.4	-88.9
Giza168	13.8	24.8	34.7	38.9	28.1	181.9	7.6	12.4	16.9	18.7	13.9	-148.1	1.5	0.3	0.1	0.1	0.5	-93.3
Misr2	10.4	12	13.5	15.6	12.9	50	9	11.3	15.3	16.7	13.1	-85.9	2.1	0.7	0.3	0.2	0.8	-90.5
Sakha61	18.8	28	42.8	47.7	34.3	153.7	10.5	15.1	21.1	26.8	18.4	-156.4	0.6	0.3	0.1	0	0.3	-98.3
Sakha8	10	11.8	15.2	17.3	13.6	73	8.7	11.2	13.4	15.1	12.1	-73.6	3.4	1.6	0.8	0.4	1.6	-88.2
Sakha93	8.2	12.3	13.2	15	12.2	82.9	9.3	10.5	12.3	14.4	11.6	-55.9	2.1	1	0.4	0.2	0.9	-90.5
Sakha94	13.8	23.1	33.2	38.1	27.1	176.1	7.7	11.9	16.3	18.8	13.7	-145.3	1.5	0.4	0.1	0.1	0.5	-93.3
Salinity mean	13.85	21.38	29.27	31.95	24.1	130.7	7.4	13.6	17.5	18.9	14.3	-154	1.7	0.6	0.2	0.1	0.6	-91.5
HSD for G	3.1						1.9						0.11					
HSD for S	2.6						1.3						0.09					
HSD for G × S	3.6						2.3						0.14					

The reduction % was measured by comparing the 0.5 dSm<sup>-1</sup> to 9 dSm<sup>-1</sup>

**Table S7. Genetic correlation among grain yield (GY), number of fertile tillers (NT), grain weight per spike (GWS), Kernels per spike (KS), plant height (PH), days to flowering (NDF), Ca<sup>+2</sup>, K<sup>+</sup>, Mg<sup>+2</sup>, Na<sup>+</sup> and Cl<sup>-</sup> obtained from plants irrigated with non-saline water (above diagonal) and 9 dSm<sup>-1</sup> saline water (below diagonal)**

	Ca <sup>+2</sup>	Mg <sup>+2</sup>	K <sup>+</sup>	Na <sup>+</sup>	Cl <sup>-</sup>	K/Na	NDF	PH	GY	NT	KS
Ca <sup>+2</sup>											
Mg <sup>+2</sup>	0.16 <sup>ns</sup>										
K <sup>+</sup>	0.93**	0.04 <sup>ns</sup>									
Na <sup>+</sup>	-0.86**	-0.49 <sup>ns</sup>	-0.88**								
Cl <sup>-</sup>	-0.46 <sup>ns</sup>	-0.90**	-0.27 <sup>ns</sup>	0.64*							
K/Na	0.95**	0.39 <sup>ns</sup>	0.92**	-0.98**	-0.61*						
NDF	0.77**	0.32 <sup>ns</sup>	0.83**	-0.91**	-0.4 <sup>ns</sup>	0.88**					
PH	-0.74**	0.02 <sup>ns</sup>	-0.93**	0.81**	0.07 <sup>ns</sup>	-0.80**	-0.86**				
GY	0.85**	-0.01 <sup>ns</sup>	0.98**	-0.84**	-0.2 <sup>ns</sup>	0.86**	0.76**	-0.94**			
NT	0.82**	0.18 <sup>ns</sup>	0.96**	-0.92**	-0.31 <sup>ns</sup>	0.90**	0.90**	-0.96**	0.96**		
KS	0.65*	-0.26 <sup>ns</sup>	0.88**	-0.66*	0.13 <sup>ns</sup>	0.66*	0.72**	-0.95**	0.93**	0.89**	
GWS	0.87**	0.04 <sup>ns</sup>	0.99**	-0.88**	-0.22 <sup>ns</sup>	0.90**	0.87**	-0.97**	0.98**	0.98**	0.93**

*ns: not significant*

*\*, \*\* Significant at 0.05 and 0.01 levels of probability, respectively*