

Supplementary material

Table S1. Irrigation water salinity and genotype effects on microbial biomass (MBC and MBN).

Factors	MBC ^{a)} (mg C kg ⁻¹)				
	6 leaves (Z16)	Tillering (Z30)	Flowering (Z65)	Maturity (Z85)	Harvesting (Z92)
Irrigation water salinity (S)					
0.3 dS m ⁻¹	292.60 ^{b) a c)}	341.72 ^a	365.19 ^a	228.00 ^a	122.40 ^a
12 dS m ⁻¹	250.36 ^b (-14.43%) ^{d)}	272.29 ^b (-20.31%)	226.28 ^b (-38.03%)	150.45 ^b (-34.01%)	102.40 ^b (-16.34%)
Genotypes (G)					
<i>Agili Glabre</i>	345.85 ^a	391.64 ^a	355.50 ^a	195.65 ^{ab}	102.05 ^{bc}
<i>Bayadha</i>	239.34 ^b	272.00 ^b	219.36 ^b	159.76 ^b	136.00 ^a
<i>Maali</i>	268.59 ^b	375.02 ^a	361.23 ^a	212.68 ^a	116.57 ^{ab}
<i>Razzek</i>	232.14 ^b	189.37 ^c	246.85 ^b	188.80 ^{ab}	95.97 ^c
ANOVA					
Salinity (S)	***	***	***	***	***
Genotypes (G)	***	***	***	***	***
S × G	***	**	***	***	***
MBN (mg N kg ⁻¹)					
Irrigation water salinity (S)					
0.3 dS m ⁻¹	36.23 ^a	39.88 ^a	46.52 ^a	31.51 ^a	17.11 ^a
12 dS m ⁻¹	29.98 ^b (-17.25%)	40.06 ^a (+0.45%)	29.55 ^b (-36.47%)	22.49 ^b (-28.62%)	14.36 ^b (-16.07%)
Genotypes (G)					
<i>Agili Glabre</i>	35.04 ^a	42.56 ^a	40.38 ^a	32.48 ^a	18.99 ^a
<i>Bayadha</i>	32.56 ^b	38.54 ^b	38.64 ^{ab}	24.57 ^b	14.13 ^b
<i>Maali</i>	32.85 ^b	38.87 ^b	35.77 ^b	24.82 ^b	15.12 ^b
<i>Razzek</i>	31.98 ^{ab}	39.92 ^{ab}	36.96 ^b	26.13 ^b	14.53 ^b
ANOVA					
Salinity (S)	***	NS ^{e)}	***	***	***
Genotypes (G)	***	***	***	***	***
S × G	***	***	***	***	**

, *Significant at $P \leq 0.01$ and $P \leq 0.001$, respectively.

^{a)} See Fig. 1 for abbreviations.

^{b)} For each growth stage, irrigation water salinity values are the means of 20 measurements (4 genotypes and 5 replicates), while the genotype values are the means calculated from 10 measurements (2 irrigation water salinity and 5 replicates).

^{c)} Means followed by different letters are significantly different at $P \leq 0.05$ (Tukey test).

^{d)} Values in parentheses indicate the rates of increase or decrease of each parameter according to the control treatment (0.3 dS m⁻¹).

^{e)} Not significant.

Table S2. Irrigation water salinity and genotype effects on enzyme activities (D-ase, Alk-ase, and P-ase).

Factors	D-ase ^{a)} ($\mu\text{g INTF g}^{-1} \text{h}^{-1}$)				
	6 leaves (Z16)	Tillering (Z30)	Flowering (Z65)	Maturity (Z85)	Harvesting (Z92)
Irrigation water salinity (S)					
0.3 dS m ⁻¹	11.90 ^{b) a c)}	14.98 ^a	11.21 ^a	10.36 ^a	7.56 ^a
12 dS m ⁻¹	10.10 ^{b)} (-15.13%) ^{d)}	11.90 ^{b)} (-20.56%)	8.47 ^{b)} (-24.44%)	6.74 ^{b)} (-34.94%)	5.12 ^{b)} (-32.27%)
Genotypes (G)					
<i>Agili Glabre</i>	12.00 ^a	15.12 ^a	11.97 ^a	10.67 ^a	7.21 ^a
<i>Bayadha</i>	11.52 ^a	10.61 ^{b)}	6.28 ^{c)}	5.48 ^{b)}	4.96 ^{b)}
<i>Maali</i>	10.84 ^{ab)}	16.95 ^a	12.37 ^a	10.80 ^a	8.87 ^a
<i>Razzek</i>	9.64 ^{b)}	11.07 ^{b)}	8.75 ^{b)}	7.25 ^{b)}	4.32 ^{b)}
ANOVA					
Salinity (S)	***	***	***	***	***
Genotypes (G)	***	***	***	***	***
S × G	***	***	***	***	***
Alk-ase ($\mu\text{g p-NP g}^{-1} \text{h}^{-1}$)					
Irrigation water salinity (S)					
0.3 dS m ⁻¹	9.60 ^a	57.31 ^a	64.96 ^a	36.14 ^a	17.34 ^a
12 dS m ⁻¹	7.27 ^{b)} (-24.27%)	40.45 ^{b)} (-29.42%)	46.13 ^{b)} (-28.99%)	30.20 ^{b)} (-16.44%)	16.54 ^a (-4.61%)
Genotypes (G)					
<i>Agili Glabre</i>	6.18 ^{b)}	66.00 ^a	50.22 ^{b)}	32.99 ^{b)}	21.01 ^a
<i>Bayadha</i>	10.30 ^a	34.89 ^{b)}	54.40 ^{b)}	26.27 ^{c)}	11.19 ^{c)}
<i>Maali</i>	9.44 ^{ab)}	28.66 ^{b)}	73.48 ^a	49.93 ^a	18.89 ^{ab)}
<i>Razzek</i>	7.82 ^{ab)}	65.98 ^a	44.69 ^{b)}	23.50 ^{c)}	16.83 ^{b)}
ANOVA					
Salinity (S)	***	***	***	***	NS ^{e)}
Genotypes (G)	***	***	***	***	***
S × G	***	***	***	***	***
P-ase ($\mu\text{g tyr g}^{-1} \text{h}^{-1}$)					
Irrigation water salinity (S)					
0.3 dS m ⁻¹	33.77 ^a	37.35 ^a	39.85 ^a	28.52 ^a	15.87 ^a
12 dS m ⁻¹	31.17 ^{b)} (-7.70%)	29.49 ^{b)} (-21.04%)	30.71 ^{b)} (-22.94%)	21.24 ^{b)} (-25.52%)	12.43 ^{b)} (-21.67%)
Genotypes (G)					
<i>Agili Glabre</i>	32.54 ^{b)}	33.87 ^a	36.25 ^a	25.70 ^a	14.44 ^{ab)}
<i>Bayadha</i>	30.13 ^{c)}	30.91 ^a	34.01 ^a	21.61 ^{b)}	11.86 ^{c)}
<i>Maali</i>	34.89 ^a	35.56 ^a	34.81 ^a	25.91 ^a	16.79 ^a
<i>Razzek</i>	32.33 ^{b)}	33.36 ^a	36.07 ^a	25.30 ^a	13.51 ^{bc)}
ANOVA					
Salinity (S)	***	***	***	***	***
Genotypes (G)	***	NS	NS	***	***
S × G	**	***	NS	***	**

** , ***Significant at $P \leq 0.01$ and $P \leq 0.001$, respectively.

^{a)} See Fig. 2 for abbreviations.

^{b)} For each growth stage, irrigation water salinity values are the means of 20 measurements (4 genotypes and 5 replicates), while the genotype values are the means calculated from 10 measurements (2 irrigation water salinity and 5 replicates).

^{c)} Means followed by different letters are significantly different at $P \leq 0.05$ (Tukey test).

^{d)} Values in parentheses indicate the rates of increase or decrease of each parameter according to the control treatment (0.3 dS m⁻¹).

^{e)} Not significant.

Table S3. Irrigation water salinity and genotype effects on mineral nutrients (available P and N).

Factors	Available P ^a (mg kg ⁻¹)				
	6 leaves (Z16)	Tillering (Z30)	Flowering (Z65)	Maturity (Z85)	Harvesting (Z92)
Irrigation water salinity (S)					
0.3 dS m ⁻¹	12.11 ^{b) c e)}	23.97 ^a	17.17 ^b	12.81 ^c	7.50 ^d
12 dS m ⁻¹	8.48 ^c (-29.96%) ^{d)}	22.69 ^a (-5.36%)	16.20 ^b (-5.64%)	9.10 ^c (-36.95%)	4.97 ^d (-33.70%)
Genotypes (G)					
<i>Agili Glabre</i>	8.30 ^b	29.85 ^a	13.15 ^b	14.03 ^a	7.96 ^a
<i>Bayadha</i>	15.09 ^a	17.23 ^c	11.44 ^b	8.03 ^c	6.88 ^b
<i>Maali</i>	9.73 ^b	25.49 ^{ab}	20.98 ^a	10.93 ^b	6.26 ^b
<i>Razzek</i>	8.05 ^b	20.74 ^b	21.18 ^a	10.82 ^b	3.83 ^c
ANOVA					
Salinity (S)	NS ^{e)}	NS	**	***	***
Genotypes (G)	***	NS	***	***	***
S × G	***	NS	*	***	**
	Available N (mg kg ⁻¹)				
Irrigation water salinity (S)					
0.3 dS m ⁻¹	35.56 ^a	38.81 ^a	40.92 ^a	29.91 ^b	25.69 ^b
12 dS m ⁻¹	27.45 ^a (-22.80%)	22.76 ^b (-27.14%)	31.25 ^a (-23.63%)	22.21 ^b (-25.74%)	20.50 ^c (-20.18%)
Genotypes (G)					
<i>Agili Glabre</i>	23.31 ^c	25.50 ^c	39.48 ^b	25.98 ^b	25.35 ^{ab}
<i>Bayadha</i>	32.22 ^b	22.87 ^c	24.55 ^{bc}	19.80 ^c	16.34 ^b
<i>Maali</i>	40.77 ^a	47.91 ^a	48.83 ^a	33.45 ^a	29.56 ^a
<i>Razzek</i>	29.77 ^{ab}	34.89 ^b	31.49 ^c	25.02 ^b	12.16 ^c
ANOVA					
Salinity (S)	***	***	***	***	***
Genotypes (G)	***	***	***	***	***
S × G	NS	***	***	***	***

*, **, ***Significant at $P \leq 0.05$, $P \leq 0.01$, and $P \leq 0.001$, respectively.

^{a)} See Fig. 3 for abbreviations.

^{b)} For each growth stage, irrigation water salinity values are the means of 20 measurements (4 genotypes and 5 replicates), while the genotype values are the means calculated from 10 measurements (2 irrigation water salinity and 5 replicates).

^{c)} Means followed by different letters are significantly different at $P \leq 0.05$ (Tukey test).

^{d)} Values in parentheses indicate the rates of increase or decrease of each parameter according to the control treatment (0.3 dS m⁻¹).

^{e)} Not significant.

Table S4. Irrigation water salinity and genotype effects on component yields (NG and GY).

Factors	NG^{a)}	GY (g)
Irrigation water salinity (S)		
0.3 dS m ⁻¹	146.75 ^{b) a c)}	4.98 ^a
12 dS m ⁻¹	137.32 ^{b)}	3.67 ^{b)}
	(-6.42%) ^{d)}	(-26.30%)
Genotypes (G)		
<i>Agili Glabre</i>	134.50 ^{c)}	4.42 ^{b)}
<i>Bayadha</i>	139.80 ^{b)}	4.08 ^{c)}
<i>Maali</i>	149.80 ^{a)}	4.82 ^{a)}
<i>Razzek</i>	140.10 ^{b)}	3.94 ^{d)}
ANOVA		
Salinity (S)	***	***
Genotypes (G)	***	***
S × G	***	***

***Significant at $P \leq 0.001$.

^{a)} See Fig. 4 for abbreviations.

^{b)} Irrigation water salinity values are the means of 20 measurements (4 genotypes and 5 replicates), while the genotype values are the means calculated from 10 measurements (2 irrigation water salinity and 5 replicates).

^{c)} Means followed by different letters are significantly different at $P \leq 0.05$ (Tukey test).

^{d)} Values in parentheses indicate the rates of increase or decrease of each parameter according to the control treatment (0.3 dS m⁻¹).