

SUPPLEMENTARY MATERIALS

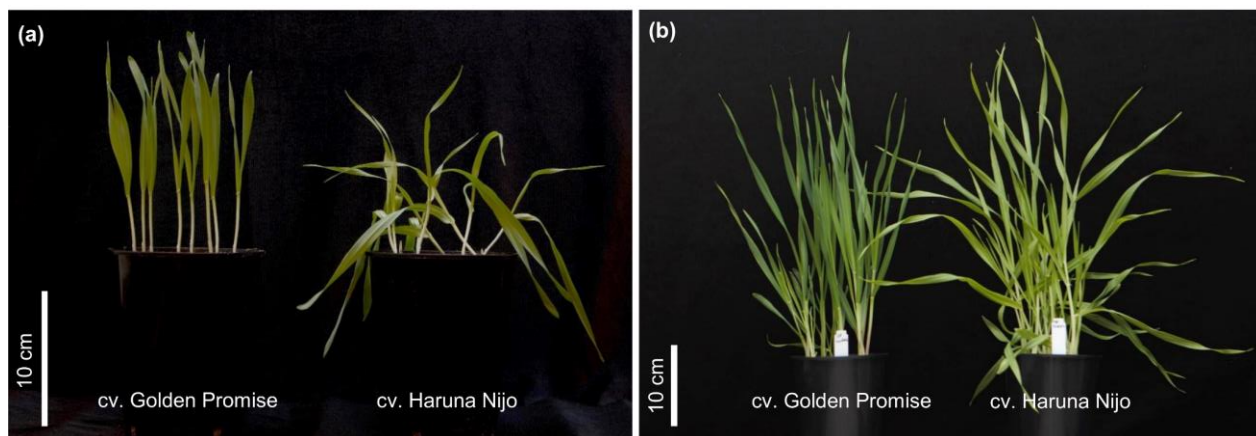


Figure S1. Phenotype of 11 (a) and 21 (b) days-old cultivars Golden Promise and Haruna Nijo plants.

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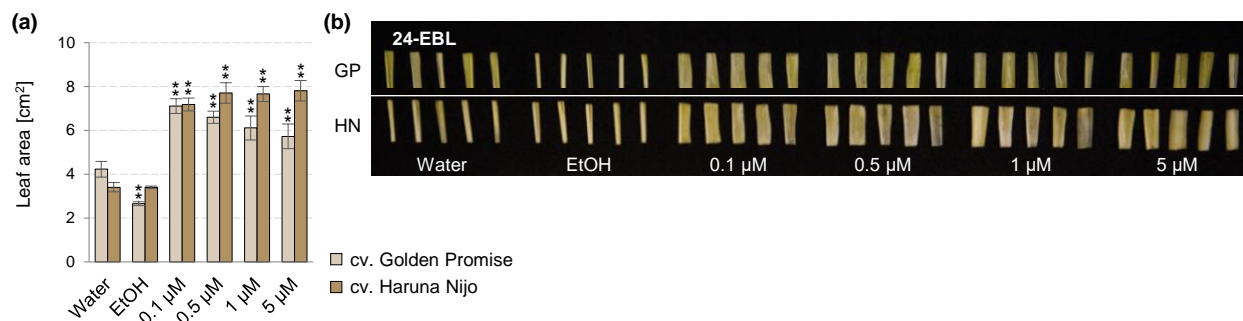


Figure S2. Leaf-blade segments after 24-EBL treatment during the unrolling test. Unrolling test was performed for two barley cultivars Golden Promise (GP) and Haruna Nijo (HN). The incubation of 1 cm long leaf fragments was performed in water, EtOH-treated control, and 24-EBL dilution series. Data presents ten biological replicates with a standard error of the mean. The asterisks indicate significant differences from watered control, revealed by Student's *t*-test (*) $p < 0.05$, (**) $p < 0.005$.

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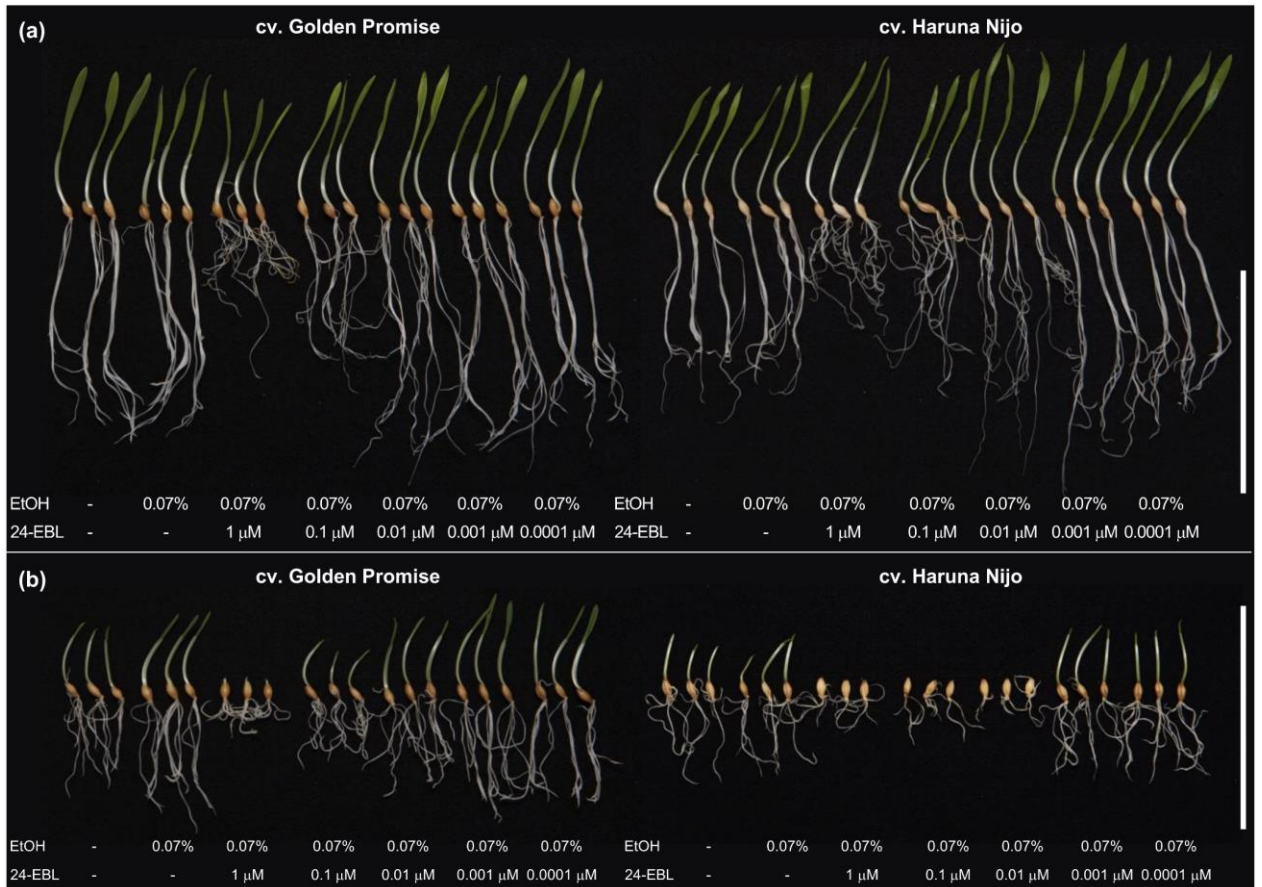


Figure S3. Phenotype of barley cultivars Golden Promise and Haruna Nijo after treatment with dilution series of 24-EBL in control (a) and salinity stress (150 mM NaCl) conditions (b). Photography presents three biological replicates. EtOH was used as a control of solvent solutions for 24-EBL. Scale bar 10 cm.

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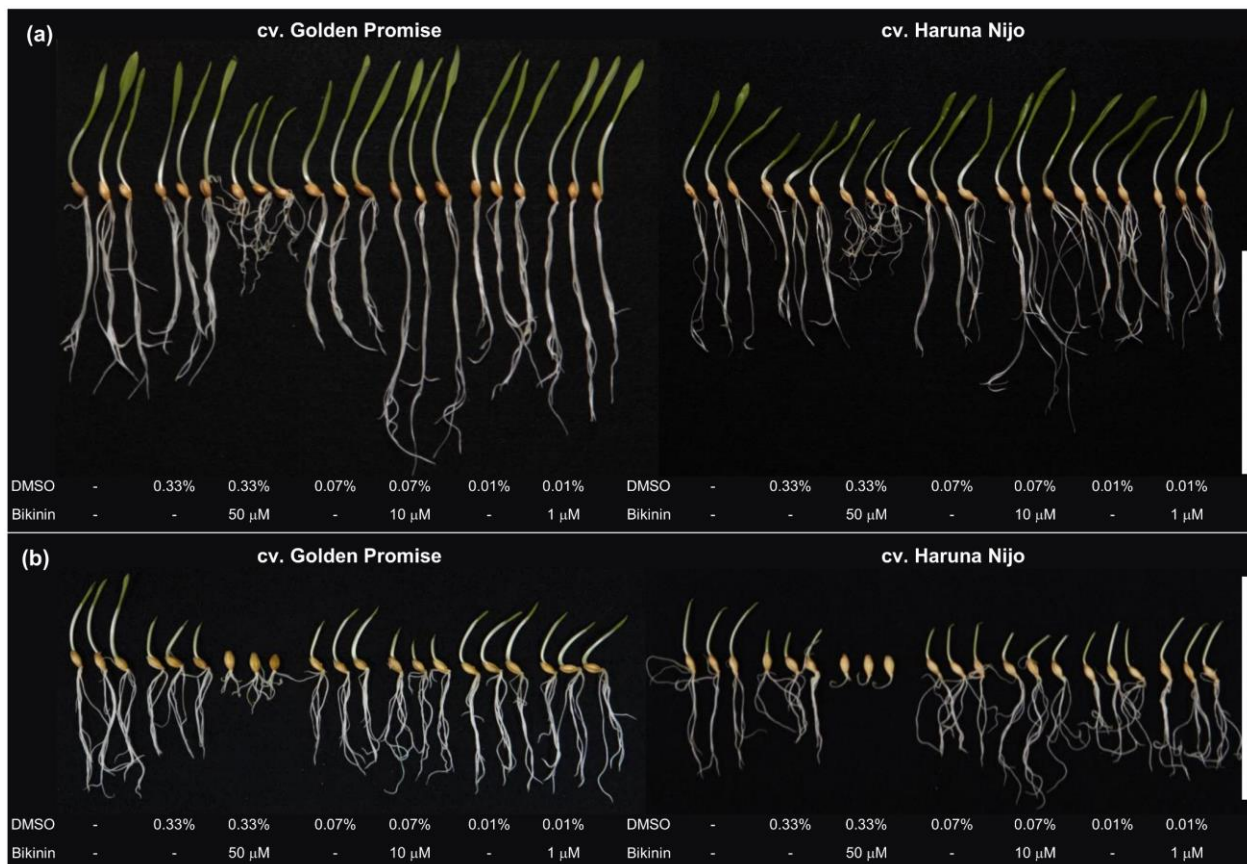


Figure S4: Phenotype of barley cultivars Golden Promise and Haruna Nijo after treatment with dilution series of bikinin in control (a) and salinity stress (150 mM NaCl) conditions (b). Photography presents three biological replicates. DMSO was used as a control of solvent solutions for bikinin. Scale bar 10 cm.

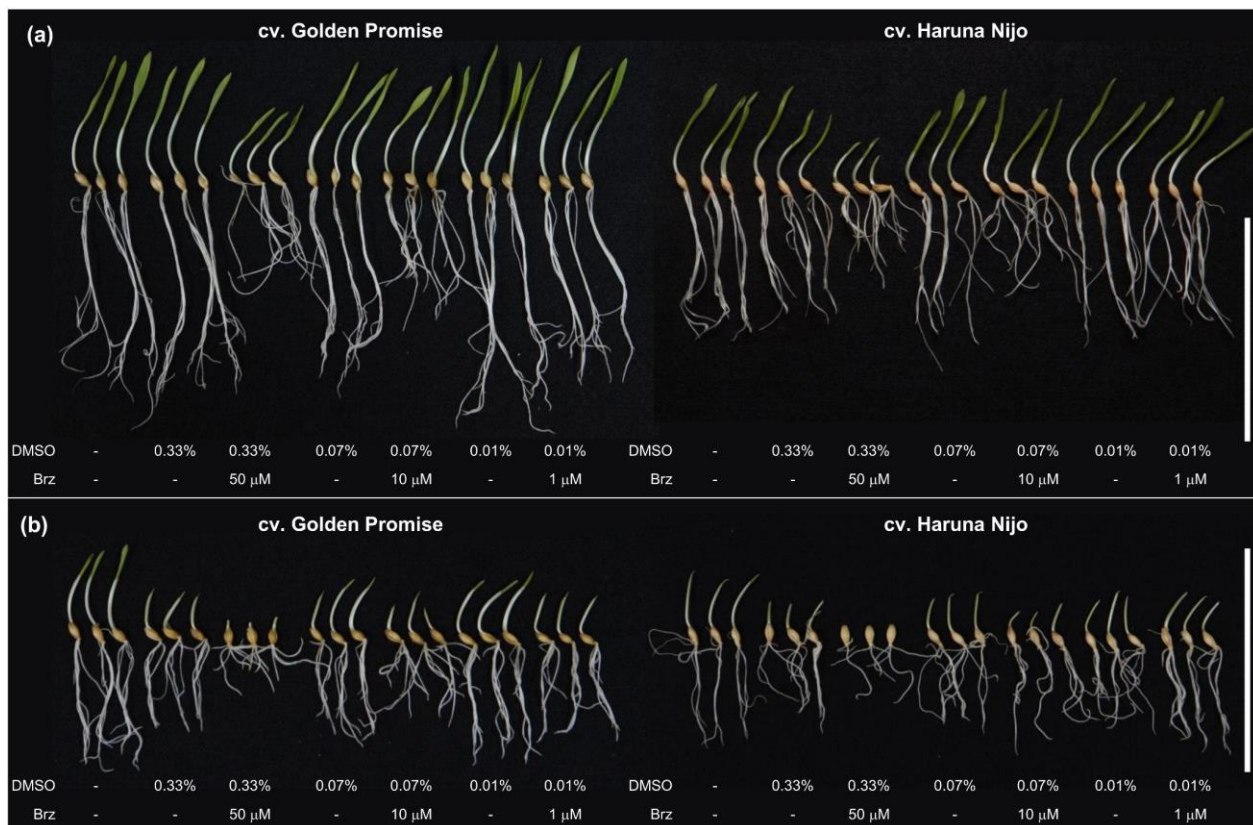


Figure S5. Phenotype of barley cultivars Golden Promise and Haruna Nijo after treatment with dilution series of Brz in control (a) and salinity stress (150 mM NaCl) conditions (b). Photography presents three biological replicates. DMSO was used as a control of solvent solutions for Brz. Scale bar 10 cm.

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Table S2. *p*-values for lamina joint inclination bioassays (a) and plant growth parameters in control conditions and during salinity stress treatment 24-EBL (b), bikinin (c), and Brz (d) that is presented in Figure 1 (a) and Figure 2 (b-d). *p*-value present differences between test sample and respective control (a-d), i.e. EtOH/DMSO treatments present *p*-value between no treatments plants (b-d), EtOH between 24-EBL treatment (b), 0.01% DMSO between 1 µM Bikinin/Brz, 0.07% DMSO between 10 µM Bikinin/Brz, 0.33% DMSO between 50 µM Bikinin/Brz (c,d). GP – cv. Golden Promise, HN – cv. Haruna Nijo, WK – control conditions, NaCl – salinity stress.

(a)

24-EBL					
	EtOH	100 nM	500 nM	1 µM	5 µM
GP	0,1895	0,0156	0,0000	0,0003	0,0000
HN	0,6751	0,0000	0,0001	0,0000	0,0000
Bikinin					
	DMSO	10 µM	50 µM	100 µM	150 µM
GP	0,8414	0,2126	0,0000	0,0002	0,0000
HN	0,3308	0,0005	0,0000	0,0005	0,0000
Brz					
	DMSO	1 µM	5 µM	10 µM	50 µM
GP	0,0745	0,7992	0,0057	0,0001	0,0000
HN	0,3526	0,5266	0,0001	0,0015	0,0001

(b)

Shoot length						
	0.07% EtOH	0.0001 µM	0.001 µM	0.01 µM	0.1 µM	1 µM
GP WK	0,7801	0,6842	0,3939	0,4170	0,9327	0,0000
HN WK	0,0493	0,0937	0,3292	0,6040	0,4804	0,5645
GP NaCl	0,9613	0,2341	0,2018	0,6623	0,0031	0,0000
HN NaCl	0,7317	0,0078	0,2855	0,0000	0,0000	0,0000
Coleoptile length						
	0.07% EtOH	0.0001 µM	0.001 µM	0.01 µM	0.1 µM	1 µM
GP WK	0,7892	0,9174	0,7484	0,9441	0,3512	0,0004
HN WK	0,4238	0,0440	0,0153	0,3625	0,2348	0,0001
GP NaCl	0,5985	0,4595	0,4122	0,7118	0,0001	0,0000
HN NaCl	0,9371	0,0102	0,2581	0,0000	0,0000	0,0000
Roots length						
	0.07% EtOH	0.0001 µM	0.001 µM	0.01 µM	0.1 µM	1 µM
GP WK	0,7868	0,6257	0,0918	0,0339	0,0000	0,0000
HN WK	0,6421	0,2275	0,0014	0,0083	0,7330	0,0001
GP NaCl	0,0222	0,0227	0,1785	0,0023	0,0000	0,0000
HN NaCl	0,7000	0,1130	0,0846	0,0000	0,0000	0,0000
FW						
	0.07% EtOH	0.0001 µM	0.001 µM	0.01 µM	0.1 µM	1 µM
GP WK	0,9314	0,4533	0,2865	0,7595	0,0653	0,0000
HN WK	0,8950	0,2836	0,7758	0,0195	0,0000	0,0000
GP NaCl	0,9383	0,1723	0,7379	0,4562	0,0104	0,0000
HN NaCl	0,3251	0,0174	0,0062	0,0432	0,0304	0,0051

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(c)

Shoot length						
	0.01% DMSO	1 μ M Bikinin	0.07% DMSO	10 μ M Bikinin	0.33% DMSO	50 μ M Bikinin
GP WK	0,21827	0,36051	0,00240	0,03645	0,00002	0,00000
HN WK	0,61916	0,57325	0,08150	0,04626	0,00001	0,00306
GP NaCl	0,15263	0,79794	0,02737	0,00000	0,00022	0,00000
HN NaCl	0,50043	0,86344	0,80051	0,03474	0,17913	0,00000
Coleoptile length						
	0.01% DMSO	1 μ M Bikinin	0.07% DMSO	10 μ M Bikinin	0.33% DMSO	50 μ M Bikinin
GP WK	0,29620	0,46346	0,21054	0,02837	0,64983	0,00028
HN WK	0,47281	0,30570	0,00515	0,01021	0,00014	0,10484
GP NaCl	0,52396	0,84703	0,86986	0,01388	0,08440	0,00000
HN NaCl	0,31500	0,99787	0,11096	0,00000	0,00000	0,00000
Roots length						
	0.01% DMSO	1 μ M Bikinin	0.07% DMSO	10 μ M Bikinin	0.33% DMSO	50 μ M Bikinin
GP WK	0,5703	0,0013	0,0013	0,0000	0,0000	0,0000
HN WK	0,2320	0,0091	0,0862	0,0001	0,0000	0,0000
GP NaCl	0,2432	0,0013	0,0133	0,0002	0,0042	0,0000
HN NaCl	0,6996	0,0888	0,8396	0,0000	0,8568	0,0000
FW						
	0.01% DMSO	1 μ M Bikinin	0.07% DMSO	10 μ M Bikinin	0.33% DMSO	50 μ M Bikinin
GP WK	0,9239	0,0098	0,0000	0,1224	0,0000	0,0000
HN WK	0,0861	0,7171	0,0000	0,8307	0,0000	0,0000
GP NaCl	0,0399	0,0116	0,2466	0,9458	0,6753	0,0000
HN NaCl	0,9185	0,0761	0,6979	0,0141	0,7689	0,0000

(d)

Shoot length						
	0.01% DMSO	1 μ M Brz	0.07% DMSO	10 μ M Brz	0.33% DMSO	50 μ M Brz
GP_contrc	0,2183	0,2271	0,0024	0,0004	0,0000	0,0000
HN WK	0,6192	0,0264	0,0815	0,0095	0,0000	0,0000
GP NaCl	0,1526	0,0028	0,0274	0,0011	0,0002	0,0000
HN NaCl	0,5004	0,0299	0,8005	0,0502	0,1791	0,0000
Coleoptile length						
	0.01% DMSO	1 μ M Brz	0.07% DMSO	10 μ M Brz	0.33% DMSO	50 μ M Brz
GP WK	0,2962	0,8375	0,2105	0,0501	0,6498	0,0000
HN WK	0,4728	0,0404	0,0052	0,0590	0,0001	0,0042
GP NaCl	0,3150	0,0008	0,1110	0,0010	0,0000	0,0000
HN NaCl	0,5240	0,2924	0,8699	0,0058	0,0844	0,0000
Roots length						
	0.01% DMSO	1 μ M Brz	0.07% DMSO	10 μ M Brz	0.33% DMSO	50 μ M Brz
GP WK	0,5703	0,3957	0,0013	0,0000	0,0000	0,0000
HN WK	0,2320	0,0931	0,0862	0,0001	0,0000	0,0000
GP NaCl	0,2432	0,0041	0,0133	0,0015	0,0042	0,0003
HN NaCl	0,6996	0,3271	0,8396	0,5419	0,8568	0,0000
FW						
	0.01% DMSO	1 μ M Brz	0.07% DMSO	10 μ M Brz	0.33% DMSO	50 μ M Brz
GP WK	0,9239	0,1375	0,0000	0,0002	0,0000	0,0000
HN WK	0,0861	0,0306	0,0000	0,1633	0,0000	0,0074
GP NaCl	0,0399	0,0007	0,2466	0,2228	0,6753	0,0000
HN NaCl	0,9185	0,9690	0,6979	0,0062	0,7689	0,0000

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Table S3. Two-way ANOVA for lamina joint inclination test for 24-EBL (a), bikinin (b), and Brz (c) presented in Figure 1.

(a)

Efect	SS	df	MS	F	p-value
Free words	112692,0	1	112692,0	1027,359	0,000000
Genotype	115,5	1	115,5	1,053	0,308886
Treatment	21454,2	6	3575,7	32,598	0,000000
Error	6800,8	62	109,7		

(b)

Efect	SS	df	MS	F	p-value
Free words	103581,4	1	103581,4	581,9536	0,000000
Genotype	931,7	1	931,7	5,2345	0,025566
Treatment	32403,1	6	5400,5	30,3419	0,000000
Error	11035,3	62	178,0		

(c)

Efect	SS	df	MS	F	p-value
Free words	7194,179	1	7194,179	1471,505	0,000000
Genotype	39,786	1	39,786	8,138	0,005516
Treatment	1460,324	8	182,540	37,337	0,000000
Error	391,119	80	4,889		

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Table S4. Three-way ANOVA for phenotypical traits for 24-EBL (a), bikinin (b), and Brz (c) presented in Figure 2.

(a)

Shoot length						
Efect	SS	df	MS	F	p-value	
Free word	6149,157	1	6149,157	7934,658	0,000000	
Genotype	13,859	1	13,859	17,883	0,000032	
Conditions	1216,006	1	1216,006	1569,092	0,000000	
Treatments	116,042	6	19,340	24,956	0,000000	
Error	210,018	271	0,775			
Coleoptile length						
Efect	SS	df	MS	F	p-value	
Free word	2029,095	1	2029,095	5674,651	0,000000	
Genotype	3,861	1	3,861	10,797	0,001150	
Conditions	87,621	1	87,621	245,045	0,000000	
Treatments	38,291	6	6,382	17,848	0,000000	
Error	96,902	271	0,358			
Roots length						
Efect	SS	df	MS	F	p-value	
Free word	11911,71	1	11911,71	8294,875	0,000000	
Genotype	49,05	1	49,05	34,156	0,000000	
Conditions	2273,57	1	2273,57	1583,227	0,000000	
Treatments	375,06	6	62,51	43,529	0,000000	
Error	389,16	271	1,44			
FW						
Efect	SS	df	MS	F	p-value	
Free word	7654647	1	7654647	14835,33	0,000000	
Genotype	93616	1	93616	181,43	0,000000	
Conditions	615159	1	615159	1192,23	0,000000	
Treatments	166621	6	27770	53,82	0,000000	
Error	139829	271	516			

(b)

Shoot length						
Efect	SS	df	MS	F	p-value	
Free word	4786,752	1	4786,752	12832,29	0,000000	
Genotype	22,714	1	22,714	60,89	0,000000	
Conditions	611,333	1	611,333	1638,86	0,000000	
Treatments	189,246	6	31,541	84,55	0,000000	
Error	101,090	271	0,373			
Coleoptile length						
Efect	SS	df	MS	F	p-value	
Free word	1945,144	1	1945,144	8380,548	0,000000	
Genotype	5,911	1	5,911	25,467	0,000001	
Conditions	39,739	1	39,739	171,214	0,000000	
Treatments	51,023	6	8,504	36,638	0,000000	
Error	62,900	271	0,232			
Roots length						
Efect	SS	df	MS	F	p-value	
Free word	12127,12	1	12127,12	8782,518	0,000000	
Genotype	60,36	1	60,36	43,710	0,000000	
Conditions	1158,16	1	1158,16	838,742	0,000000	
Treatments	849,98	6	141,66	102,594	0,000000	
Error	374,20	271	1,38			
FW						
Efect	SS	df	MS	F	p-value	
Free word	6328302	1	6328302	8020,834	0,000000	
Genotype	78901	1	78901	100,003	0,000000	
Conditions	263515	1	263515	333,993	0,000000	
Treatments	290918	6	48486	61,454	0,000000	
Error	213814	271	789			

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(c)

Shoot length					
Efect	SS	df	MS	F	p-value
Free word	4372,550	1	4372,550	12607,63	0,000000
Genotype	35,099	1	35,099	101,20	0,000000
Conditions	491,985	1	491,985	1418,57	0,000000
Treatments	198,844	6	33,141	95,56	0,000000
Error	93,988	271	0,347		
Coleoptile length					
Efect	SS	df	MS	F	p-value
Free word	1799,625	1	1799,625	10898,14	0,000000
Genotype	13,365	1	13,365	80,94	0,000000
Conditions	20,305	1	20,305	122,97	0,000000
Treatments	64,401	6	10,734	65,00	0,000000
Error	44,751	271	0,165		
Roots length					
Efect	SS	df	MS	F	p-value
Free word	9396,771	1	9396,771	9626,942	0,000000
Genotype	37,855	1	37,855	38,782	0,000000
Conditions	621,034	1	621,034	636,246	0,000000
Treatments	347,113	6	57,852	59,269	0,000000
Error	264,521	271	0,976		
FW					
Efect	SS	df	MS	F	p-value
Free word	5706860	1	5706860	6773,028	0,000000
Genotype	68578	1	68578	81,390	0,000000
Conditions	190843	1	190843	226,497	0,000000
Treatments	259380	6	43230	51,306	0,000000
Error	228341	271	843		

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Table S5. *p*-values for linear correlation between lamina joint inclination test and plant growth parameters in control conditions and during salinity stress, that is presented in Table 1.

		Lamina joint inclination test					
		24-EBL	Bikinin	Brz	24-EBL	Bikinin	Brz
GP	shoot length	0,797	0,396	0,018	0,801	0,047	0,062
	coleoptile length	0,934	0,944	0,048	0,851	0,041	0,049
	root length	0,861	0,661	0,002	0,861	0,488	0,129
	FW	0,858	0,050	0,015	0,674	0,058	0,048
HN	shoot length	0,043	0,572	0,034	0,096	0,042	0,042
	coleoptile length	0,072	0,081	0,024	0,450	0,067	0,025
	root length	0,292	0,048	0,003	0,678	0,770	0,049
	FW	0,042	0,049	0,017	0,202	0,040	0,259