

Table S1. Mean comparison and summary statistics of all studied traits for parents and S42 population under each salinity level and each growing season.

Trait	Year	Salinity level	Parents*		S42 population				
			Scarlett	ISR 42-8	Mean	SD	Min.	Max.	CV (%)
HD	Y1	L1	77.3b	89.0a	76.3a	6.0	62.0	88.0	7.9
		L2	66.3b	76.0a	68.5b	5.7	52.0	83.0	8.3
	Y2	L1	75.3b	84.7a	76.5a	6.2	60.0	89.0	8.1
		L2	66.0b	73.7a	69.4b	6.1	53.0	85.0	8.8
PH	Y1	L1	48.3b	61.3a	58.6a	8.1	35.0	88.0	13.9
		L2	40.7b	71.7a	47.9b	8.9	29.0	79.0	18.7
	Y2	L1	53.3b	68.0a	62.2a	8.0	41.0	91.0	12.9
		L2	47.3b	61.3a	51.0b	8.4	32.0	79.0	16.5
NSPLM	Y1	L1	285.0a	243.0b	264.5a	57.9	117.0	433.0	21.9
		L2	232.7a	174.0b	192.8b	50.0	79.0	384.0	25.9
	Y2	L1	290.3a	248.3b	273.8a	58.8	134.0	460.0	21.5
		L2	223.0a	174.0b	199.8b	47.6	92.0	370.0	23.8
GWPLM	Y1	L1	352.5a	170.1b	314.9a	104.0	88.9	698.9	33.0
		L2	133.6a	92.7b	131.5b	49.5	46.8	426.0	37.7
	Y2	L1	372.6a	191.4b	344.5a	109.3	93.2	699.1	31.7
		L2	138.7a	102.0b	146.7b	55.1	50.6	517.1	37.5
BWPLM	Y1	L1	962.7a	718.0b	879.4a	297.0	234.0	2234	33.8
		L2	372.3b	480.1a	404.0b	154.3	145.0	1351	38.2
	Y2	L1	882.7a	759.7b	962.0a	315.6	237.0	2094	32.8
		L2	385.3b	492.9a	457.8b	175.1	147.0	1597	38.2
HI	Y1	L1	36.7a	23.7b	36.0a	2.6	28.0	43.0	7.2
		L2	36.0a	19.3b	32.7b	1.8	27.0	39.0	5.5
	Y2	L1	42.2a	25.2b	36.0a	2.8	27.0	46.0	7.7
		L2	36.0a	20.7b	32.2b	1.8	26.0	37.0	5.5
TGW	Y1	L1	44.9a	31.1b	40.2a	4.5	26.6	53.8	11.3
		L2	37.6a	23.7b	32.6b	4.3	22.1	42.7	13.2
	Y2	L1	44.1a	30.4b	39.5a	4.4	26.1	53.0	11.2
		L2	37.2a	23.4b	32.2b	4.3	21.8	42.3	13.2

HD is heading date (days), PH is plant height (cm), NSPLM is number of spikes per linear meter (spikes lm^{-1}), GWPLM is grain weight per linear meter (g lm^{-1}), BWPLM is biological weight per linear meter (g lm^{-1}), HI is harvest index (%), and TGW is thousand grain weight (g). Y1 (season 2017-2018), Y2 (season 2018-2019), L1 is salinity level 1, and L2 salinity level 2. * Difference between parents using Duncan's test, means *with the same letter* are not significantly different.

Table S2. Reduction percentage (R%) and salinity tolerance index (STI) for parents and S42 population calculated for all studied traits.

Trait	Year	ISR 42-8		Scarlett		S42 population			
		R%	STI	R%	STI	R%	STI		
							mean	min.	max.
HD	Y1	-14.2	0.85	-14.6	0.87	-10.1	0.996	0.643	1.385
	Y2	-12.4	0.83	-13	0.87	-9.2	0.997	0.657	1.356
	Average	-13.30	0.84	-13.80	0.87	-9.65	1.00	0.643	1.385
PH	Y1	-15.9	1.21	16.8	0.86	-18.3	1.017	0.479	1.878
	Y2	-11.3	0.87	-9.8	0.91	-18.1	1.012	0.505	1.780
	Average	-13.60	1.04	3.50	0.88	-18.20	1.01	0.479	1.878
NSPLM	Y1	-18.4	0.67	-28.4	0.81	-27.1	1.052	0.155	2.947
	Y2	-23.2	0.67	-29.9	0.81	-27	1.045	0.221	2.558
	Average	-20.80	0.67	-29.15	0.81	-27.05	1.05	0.155	2.947
GWPLM	Y1	-62.1	0.50	-45.5	0.37	-58.2	1.045	0.093	5.941
	Y2	-62.8	0.48	-46.7	0.38	-57.4	1.022	0.112	5.188
	Average	-62.45	0.49	-46.10	0.37	-57.80	1.03	0.093	5.941
BWPLM	Y1	-61.3	0.52	-33.1	0.43	-54.1	1.051	0.095	5.638
	Y2	-56.3	0.46	-35.1	0.42	-52.4	1.031	0.094	4.422
	Average	-58.80	0.49	-34.10	0.42	-53.25	1.04	0.094	5.638
HI	Y1	-1.8	0.96	-18.7	0.87	-9.3	1.004	0.747	1.229
	Y2	-14.7	1.03	-17.9	0.90	-10.8	1.002	0.785	1.360
	Average	-8.25	1.00	-18.30	0.89	-10.05	1.00	0.747	1.360
TGW	Y1	-16.2	0.75	-23.7	0.83	-18.9	1.004	0.476	1.733
	Y2	-15.6	0.76	-23.2	0.83	-18.5	1.004	0.477	1.728
	Average	-15.90	0.76	-23.45	0.83	-18.70	1.00	0.477	1.733

HD is heading date (days), PH is plant height (cm), NSPLM is number of spikes per linear meter (spikes lm^{-1}), GWPLM is grain weight per linear meter (g lm^{-1}), BWPLM is biological weight per linear meter (g lm^{-1}), HI is harvest index (%), and TGW is thousand grain weight (g). Y1 (season 2017-2018), Y2 (season 2018-2019), L1 is salinity level 1, and L2 salinity level 2.

Table S3. Average of salinity tolerance index (STI) for measured traits across two growing seasons.

DHL	HD	PH	NSPLM	GWPLM	BWPLM	HI	TGW
SI001	0.655	1.358	1.578	2.902	3.140	0.918	1.216
SI002	0.943	1.726	0.486	0.355	0.373	0.940	0.877
SI003	0.969	1.830	0.483	0.578	0.577	0.988	1.004
SI004	0.875	1.317	0.943	0.827	0.860	0.955	1.093
SI005	0.798	1.379	1.467	1.506	1.560	0.969	1.089
SI006	0.870	1.591	0.530	0.426	0.511	0.841	0.950
SI007	0.833	1.518	0.683	0.552	0.561	0.976	0.923
SI008	0.878	1.235	0.599	0.314	0.321	0.969	1.053
SI009	0.746	1.207	1.316	0.991	1.005	0.981	0.906
SI010	0.937	0.665	0.522	0.437	0.416	1.044	1.268
SI011	0.723	1.591	1.447	0.975	1.009	0.955	0.996
SI012	0.717	0.902	1.566	0.391	0.421	0.931	0.806
SI013	1.181	1.044	0.278	0.215	0.225	0.953	0.727
SI014	0.942	1.216	0.447	0.279	0.291	0.954	0.756
SI015	0.696	1.091	1.461	0.911	0.979	0.922	0.730
SI016	0.803	1.202	0.436	0.692	0.718	0.948	0.991
SI017	0.768	1.420	0.923	0.476	0.498	0.945	0.669
SI018	1.003	1.111	0.638	0.580	0.602	0.955	0.889
SI019	0.789	0.843	0.894	0.638	0.654	0.963	0.744
SI020	0.965	0.974	0.693	0.790	0.804	0.967	0.800
SI021	0.718	1.007	1.109	0.536	0.512	1.035	0.946
SI022	1.069	0.885	0.530	0.398	0.428	0.925	0.766
SI023	0.718	1.261	0.837	0.738	0.845	0.866	1.207
SI026	0.855	1.208	0.720	0.668	0.651	1.014	0.889
SI027	0.949	0.796	0.581	0.440	0.418	1.045	0.851
SI028	0.713	1.066	1.531	1.635	1.670	0.977	1.161
SI029	0.646	1.051	2.075	1.265	1.274	0.988	0.651
SI030	0.968	0.658	0.722	0.446	0.473	0.939	0.838
SI031	0.714	0.971	0.640	0.648	0.659	0.972	0.965
SI032	0.747	0.716	1.283	1.475	1.715	0.852	0.973
SI033	0.681	0.953	1.087	0.396	0.397	0.990	1.027
SI034	0.952	0.817	0.529	0.550	0.620	0.887	0.891
SI035	0.933	0.660	2.075	1.536	1.655	0.922	0.786
SI036	1.203	0.664	0.179	0.154	0.148	1.020	0.646
SI038	0.761	0.684	1.270	0.714	0.755	0.934	0.565
SI039	0.959	0.890	1.166	0.601	0.664	0.897	0.760
SI040	0.923	0.800	0.882	0.551	0.559	0.977	0.651
SI041	0.949	0.924	0.623	0.561	0.615	0.902	0.907
SI042	0.944	0.984	0.659	1.037	1.120	0.931	1.025
SI043	0.687	1.211	1.727	2.421	2.734	0.885	1.178
SI044	0.646	1.095	1.943	2.340	2.548	0.912	1.095
SI045	0.986	1.052	0.560	0.847	0.882	0.949	1.101
SI046	0.859	1.295	0.834	1.206	1.130	1.064	1.175
SI047	0.985	1.063	0.469	0.502	0.567	0.882	0.970
SI048	0.926	0.876	0.548	0.811	0.937	0.851	1.035
SI049	0.880	1.310	0.726	0.532	0.594	0.883	1.094
SI050	0.681	1.215	1.050	0.784	0.828	0.948	0.775

Table S3. Continued.

DHL	HD	PH	NSPLM	GWPLM	BWPLM	HI	TGW
SI051	1.080	1.194	0.265	0.268	0.264	1.014	0.863
SI052	0.863	1.105	0.711	0.386	0.411	0.945	0.925
SI053	1.084	0.921	0.260	0.393	0.424	0.922	0.912
SI054	0.993	0.889	0.569	0.380	0.375	1.013	0.702
SI055	0.969	1.057	0.545	0.214	0.221	0.954	0.793
SI056	0.908	0.908	0.710	0.345	0.345	0.985	0.620
SI057	0.848	0.966	0.608	0.395	0.377	1.035	0.785
SI058	0.811	1.045	0.784	0.611	0.658	0.914	0.790
SI059	0.984	1.026	0.759	0.690	0.729	0.936	0.783
SI060	1.180	1.788	0.217	0.264	0.290	0.892	1.176
SI061	1.050	1.529	0.675	0.613	0.656	0.921	1.116
SI062	0.963	1.297	0.670	0.570	0.580	0.970	0.922
SI063	0.926	0.999	0.720	0.373	0.400	0.920	0.621
SI064	0.848	0.684	0.700	0.466	0.523	0.874	0.677
SI065	1.012	1.097	0.247	0.160	0.162	0.973	0.659
SI066	0.853	0.679	0.624	0.280	0.310	0.888	0.694
SI067	0.970	1.074	0.470	0.328	0.358	0.899	0.628
SI068	0.904	0.815	0.711	0.653	0.700	0.924	0.780
SI070	0.855	0.967	0.621	0.433	0.485	0.888	0.935
SI071	0.923	1.155	0.517	0.431	0.507	0.855	0.798
SI072	0.947	1.261	0.610	0.285	0.331	0.857	0.529
SI073	0.981	1.020	0.584	0.593	0.642	0.932	0.593
SI074	0.929	0.759	0.695	0.605	0.611	0.980	0.878
SI075	1.036	0.802	0.458	0.376	0.387	0.965	0.751
SI076	0.859	1.071	0.832	0.469	0.473	0.980	0.771
SI077	0.929	0.966	0.509	0.461	0.498	0.917	0.945
SI078	1.025	1.038	0.601	0.409	0.463	0.885	0.824
SI079	0.962	0.820	0.784	0.417	0.429	0.960	0.882
SI080	0.963	0.875	0.792	0.491	0.459	1.054	0.759
SI081	0.946	1.095	0.712	0.599	0.614	0.970	1.012
SI082	0.983	0.835	0.606	0.198	0.226	0.889	0.837
SI084	1.079	0.979	0.559	0.335	0.335	0.988	0.938
SI085	1.088	1.139	0.317	0.084	0.087	0.956	0.633
SI086	1.101	0.597	0.462	0.223	0.221	1.002	0.547
SI087	0.994	0.734	0.602	0.323	0.359	0.900	0.681
SI088	0.916	0.909	0.658	0.244	0.290	0.832	1.097
SI089	1.022	0.854	0.298	0.215	0.281	0.762	0.904
SI090	1.017	0.743	0.533	0.166	0.182	0.903	0.853
SI091	0.805	1.053	1.047	0.565	0.656	0.857	0.835
SI092	1.108	1.088	0.598	0.245	0.276	0.884	0.923
SI093	0.933	1.364	0.560	0.250	0.284	0.865	1.098
SI094	0.771	0.672	0.790	0.521	0.579	0.889	0.511
SI095	0.856	0.907	0.767	0.329	0.385	0.847	0.493
SI096	1.011	0.777	0.530	0.193	0.235	0.813	0.768
SI097	0.946	0.642	0.654	0.404	0.443	0.921	0.718
SI098	0.850	0.646	0.966	0.398	0.407	0.967	0.567
SI099	0.996	0.893	0.408	0.145	0.167	0.860	0.485
SI100	0.893	0.931	0.771	0.216	0.244	0.875	0.534

Table S3. Continued.

DHL	HD	PH	NSPLM	GWPLM	BWPLM	HI	TGW
SI101	0.914	0.875	0.771	0.289	0.304	0.941	0.736
SI102	0.954	0.951	0.285	0.180	0.204	0.868	0.852
SI103	0.836	0.633	0.767	0.289	0.336	0.847	1.004
SI104	0.988	0.882	0.280	0.204	0.227	0.888	0.727
SI106	0.905	0.799	0.663	0.826	0.962	0.847	0.989
SI107	0.975	0.649	1.283	0.573	0.746	0.770	0.452
SI108	0.851	0.565	0.980	0.332	0.370	0.885	0.699
SI109	1.136	0.972	0.788	0.320	0.346	0.922	0.839
SI111	1.005	0.800	0.856	0.343	0.384	0.895	0.556
SI112	1.104	0.684	1.124	0.336	0.387	0.854	0.582
SI113	1.047	0.874	1.445	0.372	0.426	0.863	0.514
SI114	1.075	0.942	1.236	0.500	0.610	0.811	0.748
SI115	1.139	1.186	1.042	0.450	0.539	0.831	0.519
SI116	1.191	0.646	0.960	0.308	0.341	0.890	0.591
SI117	1.048	0.911	1.283	0.436	0.475	0.904	0.674
SI118	0.714	0.878	0.497	0.431	0.517	0.824	0.902
SI119	0.875	0.723	0.584	0.702	0.800	0.866	1.083
SI120	0.899	0.902	0.746	0.288	0.330	0.861	1.061
SI122	1.094	0.726	1.168	0.651	0.755	0.853	1.123
SI123	1.174	0.669	1.182	0.548	0.687	0.790	0.929
SI124	1.142	0.806	1.071	0.334	0.361	0.926	0.509
SI125	0.964	0.771	0.739	0.699	0.809	0.856	0.892
SI126	0.902	1.023	1.421	0.660	0.751	0.868	0.833
SI127	1.110	0.820	0.999	0.837	0.968	0.851	1.030
SI128	0.662	0.704	1.213	0.920	1.014	0.894	0.897
SI129	0.762	0.936	0.911	1.010	1.189	0.838	1.077
SI130	0.996	0.908	1.106	1.482	1.667	0.876	0.914
SI131	0.824	1.136	1.361	1.230	1.486	0.816	0.827
SI132	0.722	0.997	1.471	0.446	0.565	0.778	0.819
SI133	0.849	0.887	1.278	0.492	0.563	0.863	0.542
SI134	0.971	0.935	1.383	0.760	0.790	0.959	0.721
SI135	0.726	0.868	1.441	0.543	0.660	0.811	0.842
SI136	0.703	1.102	0.798	0.717	0.869	0.814	0.901
SI137	0.837	0.838	1.057	0.774	0.875	0.874	0.721
SI138	0.855	0.961	1.124	0.927	1.156	0.797	1.016
SI139	0.892	1.095	0.756	0.462	0.579	0.788	1.081
SI140	0.760	0.865	1.190	1.096	1.498	0.723	0.953
SI142	0.994	0.761	0.471	0.515	0.612	0.837	1.073
SI143	1.043	0.956	0.801	0.399	0.404	0.976	0.683
SI144	0.739	1.059	1.051	0.749	0.792	0.936	1.086
SI145	0.961	0.950	0.816	0.542	0.598	0.892	0.857
SI146	0.984	1.019	1.277	0.921	0.980	0.927	0.775
SI147	1.089	0.905	0.742	0.588	0.674	0.862	0.784
SI148	0.932	0.920	0.768	0.775	0.854	0.901	1.165
SI149	0.928	0.893	1.050	0.624	0.663	0.934	0.969
SI150	0.989	0.662	0.719	0.741	0.784	0.931	0.892
SI151	0.908	0.719	0.702	0.555	0.610	0.897	0.874
SI152	0.879	0.782	1.267	0.549	0.642	0.849	0.746

Table S3. Continued.

DHL	HD	PH	NSPLM	GWPLM	BWPLM	HI	TGW
SI153	0.733	0.722	1.010	0.333	0.396	0.828	0.572
SI154	0.899	0.770	1.268	0.735	0.848	0.858	0.523
SI155	1.008	0.801	0.613	0.336	0.404	0.818	0.663
SI156	1.111	0.840	0.542	0.321	0.327	0.962	0.819
SI157	0.791	0.708	1.062	1.166	1.176	0.980	0.531
SI158	0.821	1.054	1.439	0.433	0.509	0.843	0.397
SI159	0.643	0.673	1.885	0.841	0.946	0.883	0.560
SI160	0.922	0.562	0.627	0.484	0.527	0.912	0.741
SI161	0.900	0.570	0.830	0.552	0.606	0.907	1.043
SI162	0.732	0.683	0.557	0.446	0.476	0.924	0.623
SI163	0.984	0.607	0.458	0.179	0.201	0.880	1.128
SI164	0.705	0.630	0.972	0.819	0.872	0.924	1.174
SI166	0.730	0.738	0.858	0.478	0.508	0.930	0.726
SI167	0.655	0.890	1.102	0.301	0.296	1.004	0.519
SI168	0.811	0.984	0.652	0.607	0.674	0.895	0.650
SI169	0.706	0.832	0.422	0.297	0.297	0.988	0.982
SI170	0.848	0.560	0.794	0.476	0.516	0.908	0.535
SI171	1.089	0.930	0.522	0.795	0.911	0.862	0.795
SI172	0.958	0.825	1.140	0.299	0.341	0.866	0.984
SI173	1.057	1.050	0.523	0.552	0.633	0.861	0.964
SI174	0.985	1.042	0.792	0.435	0.418	1.026	0.525
SI175	1.112	1.036	0.984	0.454	0.445	1.005	0.482
SI176	0.809	0.681	0.473	0.113	0.123	0.908	0.713
SI177	0.698	0.860	0.932	0.583	0.639	0.905	1.003
SI178	0.957	0.792	1.637	1.038	1.043	0.992	1.160
SI179	1.072	0.914	1.122	1.030	1.055	0.973	0.723
SI180	1.179	0.651	0.267	0.125	0.139	0.893	1.012
SI181	1.100	0.553	0.492	0.322	0.342	0.930	1.087
SI182	1.122	1.033	0.429	0.250	0.263	0.934	0.437
SI183	1.125	0.567	0.510	0.122	0.121	0.987	0.897
SI184	1.073	0.432	0.498	0.183	0.181	0.990	1.010
SI185	0.989	0.737	0.569	0.126	0.141	0.883	1.149
SI186	1.043	0.997	0.540	0.120	0.128	0.927	0.517
SI188	1.085	0.799	0.511	0.150	0.164	0.902	0.668
SI189	1.162	0.700	0.595	0.401	0.414	0.955	0.752
SI190	0.928	0.652	0.422	0.089	0.090	0.966	0.740
SI191	1.088	0.726	0.458	0.333	0.362	0.907	0.630
SI192	1.031	0.725	0.576	0.507	0.577	0.862	0.966
SI194	1.042	0.685	0.868	0.851	0.888	0.945	0.683
SI195	1.103	0.669	1.466	0.515	0.581	0.872	0.590
SI196	0.789	0.661	0.738	0.352	0.381	0.911	0.631
SI197	0.856	0.604	0.716	0.498	0.531	0.926	1.071
SI198	1.124	0.620	0.471	0.144	0.155	0.922	0.880
SI199	1.040	0.593	0.557	0.391	0.469	0.834	0.779
SI200	1.154	0.766	0.526	0.142	0.163	0.867	0.639
SI201	0.864	0.621	1.877	0.445	0.497	0.898	0.501
SI202	0.854	0.688	1.079	0.266	0.263	1.001	0.509
SI203	1.131	0.627	0.617	0.098	0.105	0.929	0.622

Table S3. Continued.

DHL	HD	PH	NSPLM	GWPLM	BWPLM	HI	TGW
SI204	0.875	0.671	0.594	0.182	0.186	0.967	0.602
SI205	1.135	0.608	0.489	0.084	0.093	0.895	0.553
SI206	1.163	0.541	0.436	0.076	0.082	0.915	0.438
SI208	0.919	0.815	0.674	0.688	0.719	0.942	0.635
SI209	1.049	0.628	0.399	0.051	0.048	1.057	0.517
SI210	1.111	0.550	0.478	0.149	0.152	0.973	0.521
SI211	1.125	0.621	0.408	0.203	0.217	0.924	0.462
SI212	1.199	0.630	0.405	0.111	0.113	0.962	0.612
SI213	1.160	0.666	0.476	0.162	0.170	0.941	0.962
SI214	1.074	1.153	0.261	0.228	0.218	1.038	0.694
SI215	0.914	0.844	0.569	0.655	0.688	0.949	0.990
SI216	0.930	0.619	0.591	0.351	0.408	0.856	0.607
SI217	0.948	0.653	0.325	0.267	0.342	0.775	1.070
SI218	0.858	0.872	1.055	0.937	1.019	0.908	1.136
SI219	0.730	0.718	0.753	0.612	0.714	0.856	0.711
SI220	0.800	0.990	0.517	0.473	0.516	0.914	0.710
SI221	0.753	0.760	0.825	0.629	0.746	0.833	0.995
SI222	0.882	0.638	0.687	0.329	0.362	0.898	0.570
SI223	0.744	1.179	0.891	0.658	0.743	0.874	0.679
SI224	1.033	1.167	0.971	0.715	0.856	0.825	0.709
SI225	0.695	0.984	0.917	0.673	0.722	0.934	0.581
SI226	1.091	1.054	0.407	0.129	0.127	1.013	0.485
SI227	1.060	0.855	0.354	0.158	0.180	0.874	0.718
SI229	0.810	0.962	0.711	0.456	0.495	0.908	0.888
SI230	0.802	0.879	0.692	0.369	0.380	0.965	0.457
SI231	0.926	0.890	0.561	0.307	0.340	0.891	0.655
SI232	0.789	0.922	0.881	0.913	1.035	0.870	0.644
SI233	0.592	0.915	0.487	0.248	0.273	0.902	0.855
SI234	0.853	0.950	1.126	0.341	0.384	0.878	0.731
SI235	0.853	0.973	1.076	0.938	1.163	0.808	0.927
SI236	0.623	1.240	1.545	0.671	0.755	0.879	0.781
SI237	1.013	0.905	0.419	0.162	0.178	0.905	0.689
SI238	0.863	0.856	0.847	0.765	0.880	0.865	0.958
SI239	0.726	0.984	0.742	0.906	1.066	0.838	0.878
SI240	0.859	0.950	0.995	0.359	0.423	0.838	0.991
SI241	0.798	0.808	1.082	0.997	1.216	0.813	0.816
SI242	0.772	0.855	1.237	1.578	1.796	0.872	0.445
SI243	0.858	0.870	1.026	0.245	0.275	0.888	0.663
SI244	0.830	0.866	0.291	0.125	0.136	0.913	0.656
SI245	1.098	1.204	0.571	0.115	0.138	0.828	0.527
SI246	0.993	1.233	0.695	0.669	0.767	0.864	1.072
SI250	1.003	0.933	0.881	0.441	0.503	0.867	1.071
SI251	0.947	0.855	0.943	0.413	0.499	0.820	0.902
SI252	0.976	0.882	0.952	0.461	0.579	0.791	1.194
SI253	0.968	0.930	1.618	0.580	0.631	0.920	1.049
SI256	1.026	0.914	1.222	0.562	0.654	0.856	0.841
SI257	0.750	0.877	0.642	0.396	0.449	0.871	0.733
SI258	1.126	0.775	0.960	0.459	0.546	0.832	0.875

Table S3. Continued.

DHL	HD	PH	NSPLM	GWPLM	BWPLM	HI	TGW
SI259	0.969	0.680	0.379	0.278	0.309	0.891	0.549
SI260	0.670	0.803	1.212	0.605	0.715	0.835	0.863
SI261	0.932	0.769	0.426	0.102	0.117	0.863	0.706
SI262	0.713	0.772	0.745	0.440	0.541	0.804	0.973
SI264	0.813	0.958	0.776	0.489	0.603	0.803	0.882
SI265	0.726	1.143	0.903	0.329	0.381	0.856	1.016
SI266	0.870	1.089	0.453	0.296	0.321	0.922	0.835
SI268	0.980	1.131	0.458	0.250	0.318	0.783	0.723
SI269	1.014	1.215	0.476	0.153	0.179	0.843	0.723
SI270	0.717	1.094	1.015	1.133	1.306	0.857	1.021
SI272	0.891	0.860	0.827	0.304	0.373	0.811	0.683
SI273	0.901	0.923	0.573	0.482	0.616	0.775	0.741
SI274	0.952	0.931	0.359	0.327	0.467	0.693	1.111
SI276	0.854	1.057	0.726	0.346	0.419	0.826	0.975
SI277	0.902	0.527	0.767	0.355	0.382	0.919	0.822
SI279	1.114	0.657	0.462	0.247	0.271	0.908	0.733
SI280	0.724	0.713	0.847	0.277	0.323	0.848	0.613
SI281	0.684	0.826	0.852	0.314	0.340	0.916	0.946
SI283	0.797	1.132	0.457	0.212	0.252	0.835	0.821
SI284	0.770	0.744	0.536	0.154	0.175	0.866	0.895
SI285	0.677	1.312	0.790	0.401	0.414	0.956	0.927
SI286	1.095	1.055	0.455	0.218	0.240	0.894	0.691
SI287	0.732	0.897	0.595	0.326	0.370	0.870	0.726
SI288	1.057	1.136	0.500	0.398	0.457	0.860	0.501
SI289	1.045	0.798	0.888	0.464	0.571	0.799	0.607
SI290	0.993	1.382	0.837	0.660	0.833	0.783	0.570
SI291	1.125	1.089	0.582	0.262	0.333	0.776	0.640
SI292	1.154	0.996	0.746	0.342	0.385	0.875	0.699
SI293	1.076	1.363	0.410	0.134	0.146	0.900	0.595
SI295	0.610	1.460	0.987	0.490	0.593	0.817	0.733
SI296	1.133	1.223	0.408	0.337	0.413	0.814	0.836
SI297	1.171	1.487	0.725	0.346	0.405	0.842	0.778
SI299	0.832	1.372	1.397	1.113	1.282	0.861	0.702
SI300	1.050	1.008	0.551	0.304	0.343	0.881	0.643
SI301	0.945	1.058	0.433	0.169	0.203	0.825	1.051
SI302	0.919	1.427	0.715	0.692	0.777	0.877	0.721
SI303	0.701	1.168	1.187	0.349	0.411	0.842	0.836
SI305	0.891	1.165	0.493	0.501	0.522	0.945	0.960
SI306	1.020	1.015	0.481	0.329	0.388	0.835	0.858
SI307	0.803	0.968	0.992	0.790	0.845	0.919	0.960
SI308	0.884	0.909	1.162	1.297	1.474	0.863	0.741
SI309	0.820	1.326	0.926	0.983	1.211	0.800	0.817
SI311	0.785	1.242	1.142	0.480	0.608	0.782	0.826
SI312	0.828	0.908	0.982	0.864	1.134	0.755	0.734
SI314	1.131	1.292	0.612	0.385	0.400	0.957	0.680
SI316	1.108	1.313	0.725	0.410	0.445	0.913	0.710
SI317	0.890	1.576	0.842	0.487	0.571	0.855	0.769
SI319	1.211	0.939	0.537	0.175	0.213	0.817	0.864

Table S3. Continued.

DHL	HD	PH	NSPLM	GWPLM	BWPLM	HI	TGW
SI320	1.003	1.037	0.739	0.392	0.479	0.810	0.775
SI321	0.912	1.072	0.882	0.435	0.512	0.841	0.650
SI322	0.948	1.046	0.750	0.298	0.353	0.840	0.765
SI323	0.996	0.978	0.567	0.183	0.204	0.883	1.030
SI325	1.078	0.725	0.504	0.252	0.297	0.843	0.777
SI327	0.933	1.068	0.796	0.321	0.384	0.826	0.725
SI328	0.745	0.941	0.771	0.645	0.696	0.913	0.873
SI329	1.170	0.822	0.481	0.279	0.340	0.811	0.879
SI330	0.717	1.215	0.682	0.593	0.758	0.771	0.895
SI331	0.808	0.826	0.619	0.371	0.407	0.899	0.798
SI332	0.753	1.117	0.753	0.359	0.411	0.861	0.863
SI333	0.760	1.038	0.779	0.236	0.268	0.865	0.653
SI334	0.846	0.886	0.595	0.319	0.356	0.885	0.821
SI335	0.866	0.939	0.612	0.325	0.383	0.841	0.819

HD is heading date (days), PH is plant height (cm), NSPLM is number of spikes per linear meter (spikes lm^{-1}), GWPLM is grain weight per linear meter (g lm^{-1}), BWPLM is biological weight per linear meter (g lm^{-1}), HI is harvest index (%), and TGW is thousand grain weight (g).

Table S4. Correlation coefficients for all studied traits under salinity level 1 (above diagonal) and salinity level 2 (below diagonal) over growing seasons.

	HD	PH	NSPLM	GWPLM	BWPLM	HI	TGW
HD		−0.092**	−0.358**	−0.360**	−0.342**	−0.026	−0.198**
PH	−0.072**		0.109**	0.267**	0.258**	−0.021	0.032
NSPLM	−0.454**	0.051*		0.660**	0.645**	−0.031	−0.006
GWPLM	−0.376**	0.247**	0.653**		0.971**	−0.001	0.276**
BWPLM	−0.368**	0.238**	0.651**	0.987**		−0.229**	0.270**
HI	0.010	0.021	−0.071**	−0.037	−0.187**		−0.009
TGW	−0.155**	0.206**	0.030	0.274**	0.268**	−0.001	

HD is heading date (days), PH is plant height (cm), NSPLM is number of spikes per linear meter (spikes lm^{-1}), GWPLM is grain weight per linear meter (g lm^{-1}), BWPLM is biological weight per linear meter (g lm^{-1}), HI is harvest index (%), and TGW is thousand grain weight (g). ** highly significant at 0.01 level.

Table S5. Examples of detected QTL for heading date (HD) and grain weight/lm (GWPLM) showing doubled haploid lines (DHLs) which carrying the elite and exotic alleles.

Heading date (HD)				Grain weight per linear meter (GWPLM)			
qDHHD.3H (bPb-0361,		qDHHD.4H.a		qGWYPLM.4H (bPb-		qGWYPLM.7H (bPb-	
Elite	Exotic	Elite	Exotic	Elite	Exotic	Elite	Exotic

Ave	73.	Ave	72.	Ave	72.	Ave	75.	Ave	240	Ave	200	Ave	229	Ave	277
SI2	58.	SI0	61.	SI0	61.	SI0	74.	SI0	372	SI0	150	SI0	263	SI0	372
SI2	59.	SI0	63.	SI0	71.	SI0	75.	SI0	263	SI0	190	SI0	297	SI0	325
SI1	61.	SI0	63.	SI0	71.	SI0	68.	SI0	297	SI0	264	SI0	433	SI0	357
SI2	61.	SI0	63.	SI0	69.	SI0	71.	SI0	325	SI0	246	SI0	244	SI0	293
SI0	61.	SI2	64.	SI0	66.	SI0	74.	SI0	433	SI0	195	SI0	253	SI0	338
SI0	61.	SI0	64.	SI0	64.	SI0	65.	SI0	244	SI0	182	SI0	193	SI0	229
SI1	62.	SI0	65.	SI0	67.	SI0	83.	SI0	253	SI0	280	SI0	242	SI0	312
SI1	62.	SI1	65.	SI0	76.	SI0	74.	SI0	193	SI0	225	SI0	337	SI0	233
SI2	62.	SI0	66.	SI0	68.	SI0	63.	SI0	357	SI0	245	SI0	223	SI0	440
SI2	62.	SI0	67.	SI0	65.	SI0	68.	SI0	242	SI0	225	SI0	162	SI0	295
SI0	63.	SI1	67.	SI0	65.	SI0	80.	SI0	337	SI0	248	SI0	193	SI0	502
SI2	63.	SI0	68.	SI0	71.	SI0	76.	SI0	223	SI0	147	SI0	339	SI0	243
SI1	64.	SI0	69.	SI0	74.	SI0	76.	SI0	162	SI0	201	SI0	289	SI0	280
SI1	64.	SI1	70.	SI0	61.	SI0	77.	SI0	193	SI0	95.	SI0	234	SI0	239
SI2	64.	SI0	71.	SI0	75.	SI0	70.	SI0	339	SI1	198	SI0	280	SI0	226
SI1	64.	SI0	71.	SI0	64.	SI0	76.	SI0	289	SI1	293	SI0	264	SI0	265
SI2	64.	SI0	71.	SI0	66.	SI1	72.	SI0	234	SI1	217	SI0	289	SI2	200
SI1	64.	SI0	72.	SI0	63.	SI1	70.	SI0	280	SI1	176	SI0	373	SI2	272
SI1	64.	SI2	72.	SI0	75.	SI1	81.	SI0	293	SI1	258	SI0	255	SI2	196
SI2	64.	SI0	74.	SI0	74.	SI1	76.	SI0	338	SI1	190	SI0	410	SI2	166
SI0	64.	SI0	74.	SI0	84.	SI1	78.	SI0	264	SI1	162	SI0	231	SI2	337
SI0	65.	SI0	74.	SI0	67.	SI1	79.	SI0	229	SI1	116	SI0	271	SI2	340
SI1	65.	SI0	74.	SI0	75.	SI1	81.	SI0	312	SI1	146	SI0	415	SI2	118
SI2	65.	SI2	74.	SI0	73.	SI1	83.	SI0	289	SI1	116	SI0	133	SI2	260
SI2	65.	SI0	74.	SI0	74.	SI1	78.	SI0	233	SI1	198	SI0	347	SI2	258
SI1	65.	SI0	75.	SI0	63.	SI1	72.	SI0	440	SI2	145	SI0	267	SI2	111
SI1	65.	SI0	75.	SI0	61.	SI1	79.	SI0	255	SI2	94.	SI0	282		
SI0	66.	SI0	75.	SI0	76.	SI1	62.	SI0	295	SI2	91.	SI0	255		
SI2	66.	SI0	75.	SI0	71.	SI1	76.	SI0	410	SI2	73.	SI0	338		
SI1	66.	SI2	76.	SI0	76.	SI1	64.	SI0	231	SI2	126	SI0	522		
SI2	66.	SI0	76.	SI0	74.	SI1	78.	SI0	271	SI2	144	SI0	312		
SI0	67.	SI0	76.	SI0	72.	SI1	75.	SI0	415	SI2	145	SI0	379		
SI2	67.	SI1	79.	SI0	63.	SI1	71.	SI0	133	SI2	186	SI0	243		
SI2	67.	SI1	79.	SI0	80.	SI1	65.	SI0	347	SI2	170	SI0	309		
SI0	67.	SI1	80.	SI0	71.	SI1	72.	SI0	267	SI2	338	SI0	313		
SI2	67.	SI1	80.	SI0	78.	SI1	76.	SI0	282	SI2	241	SI0	174		
SI2	67.	SI2	81.	SI0	75.	SI1	80.	SI0	255	SI2	200	SI0	200		
SI2	67.	SI0	83.	SI0	74.	SI1	67.	SI0	338	SI2	272	SI0	211		
SI1	67.			SI0	70.	SI1	69.	SI0	522	SI2	212	SI0	211		
SI0	68.			SI0	77.	SI1	65.	SI0	502	SI2	196	SI0	150		
SI0	68.			SI0	71.	SI1	64.	SI0	312	SI2	324	SI0	190		
SI0	68.			SI0	75.	SI1	80.	SI0	379	SI2	166	SI0	209		
SI1	68.			SI0	73.	SI1	81.	SI0	243	SI2	302	SI0	261		
SI1	69.			SI0	71.	SI1	79.	SI0	309	SI2	118	SI0	290		

Table S5. Continued.

Heading date (HD)				Grain weight per linear meter (GWPLM)			
qDHHD.3H (bPb-0361,		qDHHD.4H.a		qGWYPLM.4H (bPb-		qGWYPLM.7H (bPb-	
Elite	Exotic	Elite	Exotic	Elite	Exotic	Elite	Exotic

Ave	73.	Ave	72.	Ave	72.	Ave	75.	Ave	240	Ave	200	Ave	229	Ave	277
SI2	69.			SI0	73.	SI1	79.	SI0	243	SI2	254	SI0	180		
SI1	69.			SI0	74.	SI1	82.	SI0	174	SI2	260	SI0	264		
SI1	69.			SI0	76.	SI1	73.	SI0	200	SI2	226	SI0	246		
SI2	69.			SI0	74.	SI1	79.	SI0	211	SI2	233	SI0	195		
SI2	69.			SI0	78.	SI1	77.	SI0	211	SI2	182	SI0	234		
SI2	69.			SI0	74.	SI2	70.	SI0	209	SI2	258	SI0	134		
SI2	69.			SI0	77.	SI2	80.	SI0	261	SI2	111	SI0	182		
SI1	70.			SI0	75.	SI2	81.	SI0	290	SI2	369	SI0	197		
SI2	70.			SI0	75.	SI2	72.	SI0	234	SI2	183	SI0	225		
SI2	70.			SI0	74.	SI2	77.	SI0	197	SI2	205	SI0	223		
SI2	70.			SI0	76.	SI2	79.	SI0	223	SI2	161	SI0	189		
SI2	70.			SI0	79.	SI2	82.	SI0	189	SI2	241	SI0	267		
SI1	70.			SI0	80.	SI2	77.	SI0	261	SI3	147	SI0	261		
SI2	70.			SI0	80.	SI2	75.	SI0	216	SI3	192	SI0	216		
SI2	70.			SI0	76.	SI2	80.	SI0	239	SI3	260	SI0	245		
SI1	70.			SI0	73.	SI2	77.	SI0	226			SI0	225		
SI1	70.			SI0	77.			SI0	265			SI0	248		
SI1	70.			SI0	68.			SI0	157			SI0	147		
SI2	70.			SI0	80.			SI0	198			SI0	201		
SI0	70.			SI0	74.			SI0	177			SI0	95.		
SI0	70.			SI0	67.			SI0	154			SI0	157		
SI0	70.			SI0	77.			SI0	137			SI0	198		
SI0	71.			SI0	74.			SI0	254			SI0	177		
SI0	71.			SI0	71.			SI0	171			SI0	154		
SI0	71.			SI1	73.			SI0	172			SI0	137		
SI1	71.			SI1	74.			SI0	197			SI0	254		
SI0	71.			SI1	70.			SI0	149			SI0	171		
SI0	71.			SI1	76.			SI0	212			SI0	172		
SI1	71.			SI1	75.			SI0	216			SI0	239		
SI2	71.			SI1	80.			SI0	130			SI0	197		
SI2	71.			SI1	64.			SI1	143			SI0	149		
SI2	71.			SI1	71.			SI1	178			SI0	212		
SI1	72.			SI1	82.			SI1	157			SI0	216		
SI2	72.			SI1	81.			SI1	304			SI0	130		
SI1	72.			SI1	74.			SI1	256			SI1	153		
SI1	72.			SI1	72.			SI1	195			SI1	189		
SI1	72.			SI1	80.			SI1	207			SI1	143		
SI1	72.			SI1	66.			SI1	216			SI1	178		
SI1	72.			SI1	69.			SI1	212			SI1	157		
SI1	72.			SI1	70.			SI1	232			SI1	304		
SI2	72.			SI1	75.			SI1	259			SI1	256		
SI1	72.			SI1	64.			SI1	246			SI1	195		
SI2	73.			SI1	69.			SI1	198			SI1	207		
SI0	73.			SI1	70.			SI1	233			SI1	216		
SI1	73.			SI1	72.			SI1	302			SI1	212		

Table S5. Continued.

Heading date (HD)		Grain weight per linear meter (GWPLM)	
qDHHD.3H (bPb-0361,	qDHHD.4H.a	qGWYPLM.4H (bPb-	qGWYPLM.7H (bPb-

Elite		Exotic		Elite		Exotic		Elite		Exotic		Elite		Exotic	
Ave	73.	Ave	72.	Ave	72.	Ave	75.	Ave	240	Ave	200	Ave	229	Ave	27
SI1	73.			SI1	66.			SI1	269			SI1	232		
SI1	73.			SI1	76.			SI1	274			SI1	259		
SI0	73.			SI1	65.			SI1	286			SI1	246		
SI0	73.			SI1	79.			SI1	283			SI1	198		
SI2	73.			SI1	73.			SI1	315			SI1	233		
SI1	73.			SI1	73.			SI1	324			SI1	222		
SI2	73.			SI1	72.			SI1	333			SI1	302		
SI0	73.			SI1	61.			SI1	224			SI1	185		
SI0	73.			SI1	72.			SI1	235			SI1	269		
SI0	74.			SI1	75.			SI1	291			SI1	274		
SI0	74.			SI1	62.			SI1	238			SI1	198		
SI2	74.			SI1	69.			SI1	291			SI1	286		
SI0	74.			SI1	64.			SI1	300			SI1	283		
SI0	74.			SI1	70.			SI1	349			SI1	315		
SI0	74.			SI1	80.			SI1	218			SI1	324		
SI2	74.			SI1	75.			SI1	348			SI1	333		
SI2	74.			SI1	78.			SI1	232			SI1	433		
SI0	74.			SI1	76.			SI1	306			SI1	391		
SI0	74.			SI1	80.			SI1	244			SI1	224		
SI1	74.			SI1	68.			SI1	315			SI1	235		
SI0	74.			SI1	64.			SI1	261			SI1	291		
SI1	75.			SI1	75.			SI1	299			SI1	291		
SI1	75.			SI1	79.			SI1	243			SI1	300		
SI1	75.			SI1	83.			SI1	191			SI1	349		
SI2	75.			SI1	81.			SI1	227			SI1	218		
SI0	75.			SI1	75.			SI1	231			SI1	348		
SI0	75.			SI1	77.			SI1	230			SI1	232		
SI1	75.			SI1	77.			SI1	141			SI1	210		
SI2	75.			SI1	79.			SI1	254			SI1	306		
SI0	75.			SI1	67.			SI1	173			SI1	244		
SI0	75.			SI1	70.			SI1	305			SI1	315		
SI1	75.			SI1	80.			SI1	261			SI1	261		
SI1	75.			SI1	77.			SI1	103			SI1	299		
SI1	76.			SI2	81.			SI1	335			SI1	254		
SI2	76.			SI2	70.			SI1	336			SI1	243		
SI1	76.			SI2	70.			SI1	115			SI1	260		
SI0	76.			SI2	80.			SI1	120			SI1	188		
SI1	76.			SI2	79.			SI1	126			SI1	273		
SI0	76.			SI2	80.			SI1	205			SI1	191		
SI1	76.			SI2	71.			SI1	98.			SI1	189		
SI0	76.			SI2	72.			SI1	239			SI1	373		
SI2	76.			SI2	73.			SI1	307			SI1	229		
SI0	76.			SI2	69.			SI1	237			SI1	307		
SI0	76.			SI2	64.			SI1	196			SI1	227		
SI0	76.			SI2	67.			SI1	229			SI1	231		

Table S5. Continued.

Heading date (HD)	Grain weight per linear meter (GWPLM)
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qDHHD.3H (bPb-0361,				qDHHD.4H.a				qGWYPLM.4H (bPb-				qGWYPLM.7H (bPb-			
Elite		Exotic		Elite		Exotic		Elite		Exotic		Elite		Exotic	
Ave	73.	Ave	72.	Ave	72.	Ave	75.	Ave	240	Ave	200	Ave	229	Ave	27
SI0	76.			SI2	65.			SI1	134			SI1	230		
SI1	76.			SI2	70.			SI1	220			SI1	141		
SI1	77.			SI2	64.			SI2	138			SI1	293		
SI1	77.			SI2	76.			SI2	234			SI1	217		
SI2	77.			SI2	62.			SI2	180			SI1	183		
SI0	77.			SI2	78.			SI2	103			SI1	254		
SI2	77.			SI2	77.			SI2	119			SI1	173		
SI0	77.			SI2	67.			SI2	278			SI1	217		
SI0	77.			SI2	67.			SI2	202			SI1	305		
SI1	77.			SI2	72.			SI2	266			SI1	176		
SI2	77.			SI2	66.			SI2	270			SI1	261		
SI1	77.			SI2	58.			SI2	280			SI1	230		
SI1	78.			SI2	69.			SI2	273			SI1	230		
SI1	78.			SI2	69.			SI2	128			SI1	103		
SI0	78.			SI2	59.			SI2	156			SI1	258		
SI1	78.			SI2	76.			SI2	233			SI1	335		
SI2	78.			SI2	70.			SI2	204			SI1	336		
SI0	78.			SI2	64.			SI2	337			SI1	115		
SI1	78.			SI2	70.			SI2	277			SI1	190		
SI1	79.			SI2	67.			SI2	142			SI1	162		
SI1	79.			SI2	66.			SI2	332			SI1	116		
SI1	79.			SI2	70.			SI2	202			SI1	146		
SI2	79.			SI2	69.			SI2	340			SI1	120		
SI1	79.			SI2	79.			SI2	169			SI1	116		
SI2	79.			SI2	75.			SI2	113			SI1	126		
SI1	79.			SI2	75.			SI2	273			SI1	205		
SI2	79.			SI2	73.			SI2	242			SI1	98.		
SI0	79.			SI2	74.			SI2	235			SI1	198		
SI2	79.			SI2	74.			SI2	242			SI1	239		
SI1	80.			SI2	76.			SI2	244			SI1	307		
SI0	80.			SI2	65.			SI2	188			SI1	237		
SI0	80.			SI2	79.			SI2	177			SI1	196		
SI0	80.			SI2	74.			SI2	134			SI1	229		
SI1	80.			SI2	61.			SI2	235			SI1	134		
SI1	80.			SI2	72.			SI2	202			SI1	220		
SI1	80.			SI2	63.			SI2	200			SI2	138		
SI2	80.			SI2	68.			SI2	177			SI2	234		
SI0	80.			SI2	64.			SI2	183			SI2	180		
SI2	80.			SI2	70.			SI2	196			SI2	103		
SI0	80.			SI2	74.			SI2	138			SI2	145		
SI2	80.			SI2	76.			SI2	218			SI2	94.		
SI1	81.			SI2	63.			SI2	201			SI2	91.		
SI1	81.			SI2	71.			SI2	218			SI2	290		
SI2	81.			SI2	71.			SI2	245			SI2	73.		
SI1	81.			SI2	73.			SI2	288			SI2	126		

Table S5. Continued.

Heading date (HD)								Grain weight per linear meter (GWPLM)							
qDHHD.3H (bPb-0361,				qDHHD.4H.a				qGWYPLM.4H (bPb-				qGWYPLM.7H (bPb-			
Elite		Exotic		Elite		Exotic		Elite		Exotic		Elite		Exotic	
Av	73.	Ave	72.	Ave	72.	Ave	75.	Ave	240	Ave	200	Ave	229	Ave	277
SI1	81.			SI2	69.			SI2	190			SI2	144		
SI1	82.			SI2	71.			SI2	211			SI2	119		
SI2	82.			SI2	79.			SI2	131			SI2	145		
SI1	82.			SI2	64.			SI2	213			SI2	186		
SI1	83.			SI2	62.			SI2	394			SI2	278		
SI1	83.			SI2	67.			SI3	190			SI2	202		
SI0	83.			SI2	66.			SI3	145			SI2	170		
SI0	84.			SI2	62.			SI3	306			SI2	338		
				SI2	79.			SI3	214			SI2	266		
				SI2	65.			SI3	242			SI2	241		
				SI2	78.			SI3	211			SI2	270		
				SI2	77.			SI3	321			SI2	280		
				SI2	81.			SI3	392			SI2	273		
				SI2	58.			SI3	329			SI2	128		
				SI2	80.			SI3	222			SI2	156		
				SI2	81.			SI3	301			SI2	233		
				SI2	68.			SI3	205			SI2	212		
				SI3	76.			SI3	216			SI2	324		
				SI3	72.			SI3	218			SI2	204		
				SI3	71.			SI3	137			SI2	277		
				SI3	70.			SI3	199			SI2	142		
				SI3	75.			SI3	212			SI2	302		
				SI3	66.			SI3	168			SI2	332		
				SI3	70.			SI3	192			SI2	202		
				SI3	67.			SI3	270			SI2	422		
				SI3	66.			SI3	194			SI2	169		
				SI3	68.			SI3	210			SI2	113		
				SI3	79.			SI3	177			SI2	273		
				SI3	78.			SI3	203			SI2	242		
				SI3	81.			SI3	219			SI2	223		
				SI3	73.							SI2	235		
				SI3	69.							SI2	254		
				SI3	70.							SI2	226		
				SI3	72.							SI2	233		
				SI3	74.							SI2	182		
				SI3	68.							SI2	242		
				SI3	61.							SI2	244		
				SI3	77.							SI2	188		
				SI3	59.							SI2	177		
				SI3	63.							SI2	176		
				SI3	62.							SI2	134		
				SI3	64.							SI2	369		
				SI3	70.							SI2	183		
				SI3	73.							SI2	235		
												SI2	205		

Table S5. Continued.

Heading date (HD)								Grain weight per linear meter (GWPLM)							
qDHHD.3H (bPb-0361,				qDHHD.4H.a				qGWYPLM.4H (bPb-				qGWYPLM.7H (bPb-			
Elite		Exotic		Elite		Exotic		Elite		Exotic		Elite		Exotic	
Ave	73.	Ave	72.	Ave	72.	Ave	75.	Ave	240	Ave	200	Ave	229	Ave	277
												SI2	202		
												SI2	200		
												SI2	177		
												SI2	183		
												SI2	196		
												SI2	156		
												SI2	138		
												SI2	218		
												SI2	161		
												SI2	201		
												SI2	218		
												SI2	245		
												SI2	288		
												SI2	190		
												SI2	211		
												SI2	131		
												SI2	241		
												SI2	214		
												SI2	213		
												SI2	394		
												SI3	190		
												SI3	145		
												SI3	306		
												SI3	214		
												SI3	242		
												SI3	211		
												SI3	321		
												SI3	392		
												SI3	329		
												SI3	222		
												SI3	301		
												SI3	205		
												SI3	216		
												SI3	218		
												SI3	137		
												SI3	199		
												SI3	212		
												SI3	174		
												SI3	147		
												SI3	168		
												SI3	192		
												SI3	270		
												SI3	192		
												SI3	260		
												SI3	194		

Table S5. Continued.

Heading date (HD)								Grain weight per linear meter (GWPLM)							
qDHHD.3H (bPb-0361,				qDHHD.4H.a				qGWYPLM.4H (bPb-				qGWYPLM.7H (bPb-			
Elite		Exotic		Elite		Exotic		Elite		Exotic		Elite		Exotic	
Ave	73.	Ave	72.	Ave	72.	Ave	75.	Ave	240	Ave	200	Ave	229	Ave	277
												Si3	210		
												Si3	177		
												Si3	203		
												Si3	219		

Table S6. Co-location of the detected QTL in the current study.

Chr.	Marker	Type	Pos.	Traits			
1H	bPb_0405	DArT	7.21	STI (GW)	STI (BW)	STI (HI)	
3H	HVM33	SSR	83	NSPLM	TGW		
	HV13GEIII	SSR	150	PH	STI (PH)	STI (TGW)	
4H	HVPAZXG	SSR	44.0	HD	STI (DH)		
	bPb_3512	DArT	67.92	STI (GW)	STI (BW)		
	bPb_3739	DArT	96.3	GWPLM	BWPLM		
	Mlo	SSR	127.5	STI (HI)	STI (TGW)		
7H	bPb_8161	DArT	2.2	GWPLM	BWPLM		
	bPb_6706	DArT	58.17	STI (GW)	STI (BW)		
	bPb_5260	DArT	115.56	HD	PH	HI	TGW STI (BW)

Chr. is chromosome, Marker, is the marker that showed pleiotropic effects, Type is the marker type, and Pos., is the chromosomal position of the marker.

Table S7. The functional annotation of some putative candidate genes associated with the studied traits under salinity conditions.

Trait	Chr	Marker	Start (bp)	End (bp)	Overlapping gene or nearest gene	Start (bp)	End (bp)	Annotation
STI (GWPLM), STI (BWPLM), STI (HI)	1	bPb-0405	702,983	703,298	HORVU1Hr1G000250	701,253	708,742	P-loop containing nucleoside triphosphate hydrolase
STI (GWPLM)	1	bPb-1604	40,030,953	40,031,336	HORVU1Hr1G014420.1.1	40,031,428	40,031,998	Coding unknown protien
STI (HI)	1	bPb-2240	532,588,275	532,589,050	HORVU1Hr1G083800.1	532,585,748	532,587,466	Anaerobic coproporphyrinogen-III oxidase
PH	1	GMS21	117,671,240	117,671,256	HORVU1Hr1G024870.1	117,662,362	117,665,320	Glycerophosphodiester phosphodiesterase domain
STI (NSPLM)	1	S53707	11,165,978	11,165,998	HORVU1Hr1G005110.1	11,164,570	11,166,159	Metallothionein, family 15, plant
HI	2	bPb-6088	605,502,245	605,502,718	HORVU2Hr1G083450	605,489,345	605,515,390	Coding unknown protien
HI	2	bPb-6088	605,502,245	605,502,718	HORVU2Hr1G083430	605,299,287	605,627,303	TAZ domain superfamily
STI (TGW)	2	HVM36	22,074,544	22,074,562	HORVU2Hr1G011070.4	22,072,805	22,074,721	No protein
STI (TGW)	2	HVM36	22,074,544	22,074,562	HORVU2Hr1G011090.1.1	22,075,294	22,076,262	Coding unknown protien
HD	3	bPb-0361/bPb-4169	683,882,336	683,882,585	HORVU3Hr1G111650.1	683,876,197	683,876,447	NAD(P)-binding domain superfamily
TGW	3	bPb-7724	695,337,456	695,337,645	HORVU3Hr1G116150.2	695,340,363	695,353,414	Coding unknown protien
STI (HD)	3	bPb-0789	667,535,233	667,535,847	HORVU3Hr1G104940	667,534,942	667,537,208	Leucine-rich repeat-containing N-terminal, plant-type
STI (TGW)	3	bPb-4472	988,128	988,665	HORVU3Hr1G000390.2	1,000,734	1,009,504	1-deoxy-D-xylulose 5-phosphate reductoisomerase, N-terminal
NSPLM, TGW	3	HVM33	544,865,867	544,865,891	HORVU3Hr1G072340.1	544,890,480	544,896,649	B3 DNA binding domain, Auxin response factor
STI (PH)	3	HV13GEIII	552,526,028	552,526,052	HORVU3Hr1G073140.1	552,518,239	552,519,222	RlpA-like protein, double-psi beta-barrel domain, Expansin, cellulose-binding-like domain
HI	3	HVLTTPPB	20,120,978	20,121,002	HORVU3Hr1G009360, HORVU3Hr1G009370	20,119,499	20,121,584	Bifunctional inhibitor/plant lipid transfer protein/seed storage helical domain
HD	4	HVPAZXG	47,808,781	47,809,614	HORVU4Hr1G013540.3	47,808,781	47,809,614	Protein kinase domain
HD	4	bPb-6640/bPb-6611	35,787,129	35,787,532	HORVU4Hr1G011500	35,787,129	35,787,532	Serine hydroxymethyltransferase-like domain
GWPLM, BWPLM	4	bPb-3739	595,321,440	595,321,671	HORVU4Hr1G074740.4	595,326,889	595,329,230	MFS transporter superfamily
BWPLM	4	bPb-5480	503,102,630	503,115,987	HORVU4Hr1G059980.4	503,102,675	503,113,026	tRNA methyltransferase, Trm1
STI (HD), HD	4	HvPAZXG	47,809,743	47,809,762	HORVU4Hr1G013550	47,808,567	47,811,193	Serpin domain
NSPLM	4	MGB396	599,170,397	599,170,419	HORVU4Hr1G075730.1.1	599,169,608	599,171,737	Coding unknown protien

HD is heading date (days), PH is plant height (cm), NSPLM is number of spikes per linear meter (spikes lm^{-1}), GWPLM is grain weight per linear meter (g lm^{-1}), BWPLM is biological weight per linear meter (g lm^{-1}), HI is harvest index (%), and TGW is thousand grain weight (g).

Trait	Chr	Marker	Start (bp)	End (bp)	Overlapping gene or nearest gene	Start (bp)	End (bp)	Annotation
STI (TGW), STI (HI)	4	Mlo	225,213,247	225,235,255	HORVU4Hr1G032760	225,213,24	225,214,293	Peptide chain release factor
STI (TGW)	4	GMS89	100,740,190	100,740,208	HORVU4Hr1G020330	100,702,684	100,703,118	Coding unknown protien
PH	5	Bmag357	348,163,596	348,163,618	HORVU5Hr1G045010.1	348,103,655	348,105,073	Coding unknown protien
PH	5	AF043094A	616,115,030	616,115,050	HORVU5Hr1G103460.1	616,115,069	616,116,208	Dehydrin
HD, HI, TGW, STI (BWPLM)	7	bPb-5260	604,850,617	604,851,429	HORVU7Hr1G100410.1	604,848,339	604,848,974	CENP-T/Histone H4, histone fold
GWPLM, BWPLM	7	bPb-8161	350,775,868	350,775,892	HORVU7Hr1G067270.1	350,770,174	350,770,200	OS12G0169200 PROTEIN (Conserved hypothetical protein.)
STI (GWPLM), STI (BWPLM)	7	bPb-6706	63,334,413	63,334,861	HORVU7Hr1G031250.1	63,328,326	63,330,455	CAP domain

HD is heading date (days), PH is plant height (cm), NSPLM is number of spikes per linear meter (spikes lm^{-1}), GWPLM is grain weight per linear meter (g lm^{-1}), BWPLM is biological weight per linear meter (g lm^{-1}), HI is harvest index (%), and TGW is thousand grain weight (g).