Supplementary data.

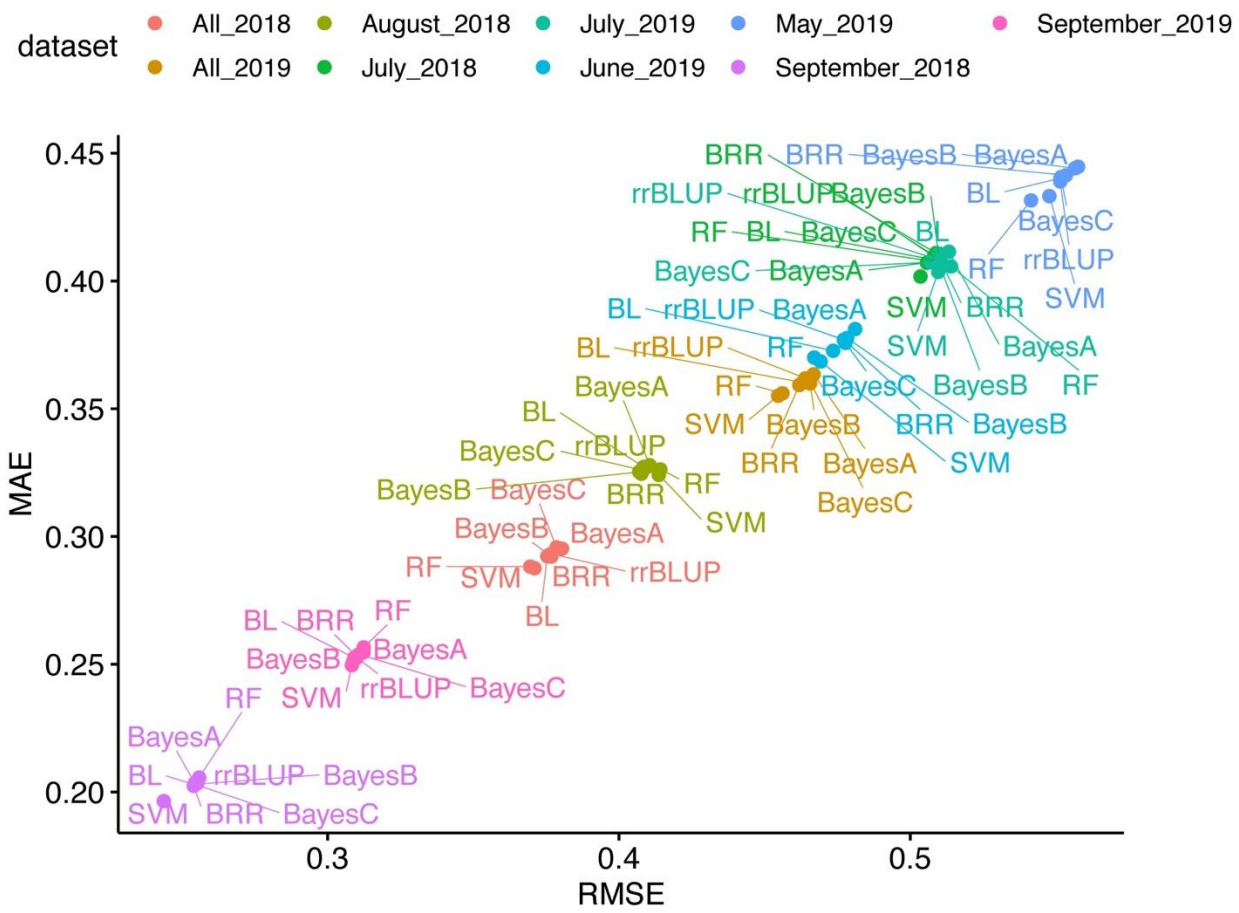

Figure S1. Correlation scatter plot between mean absolute error (MAE) and root mean squared error (RMSE) values of GS results for eight different models in yield.

Table S1. Hyperparameters autoadjusted by caret R package in random forest (RF) and support vector machine (SVM) models to obtain the lowest value of RMSE. The values were obtained of model with 10-fold cross validation (10CV) and with 10% of the data to test the model (10%). Hyperparameters tuned in SVM were sigma = defining how far is the influence of training predictors in the regression and cost (C) = $\{0.25, 0.5, 1.0\}$ were used to control the trade-off between smooth decision boundary (hyperplane) that classifies the training predictors correctly. Hyperparameters tuned in RF were mtry = number of predictors (SNPs) randomly selected at each tree node $\{2, 116, 6832\}$ and split rule = splitting rule to use during tree construction for regression which can be "variance" or "extra-trees".

		SVM		RF	
Dataset	Testing	sigma	cost	mtry	split_rule
July_2018	10%	1.21E-04	1	6832	variance
	10CV	1.23E-04	1	6832	extratrees
August_2018	10%	1.21E-04	1	6832	extratrees
	10CV	1.20E-04	1	116	variance
September_2018	10%	9.82E-05	1	6832	variance
	10CV	9.86E-05	1	6832	extratrees
All_2018	10%	1.21E-04	1	6832	variance
	10CV	1.23E-04	1	6832	variance
May_2019	10%	1.00E-04	0.25	6832	variance
	10CV	1.01E-04	0.25	6832	extratrees
June_2019	10%	1.25E-04	0.5	116	extratrees
	10CV	1.22E-04	1	6832	variance
July_2019	10%	1.26E-04	1	6832	extratrees
	10CV	1.22E-04	1	116	variance
September_2019	10%	1.23E-04	1	6832	variance
	10CV	1.22E-04	1	6832	variance
All_2019	10%	1.01E-04	0.25	6832	variance
	10CV	1.22E-04	0.25	6832	extratrees

Table S2. BLUEs values calculated for yield during three harvest in 2018, four harvest in 2019, all 2018 and all 2019 in WA and vigour (V) under salt stress in two locations WA and UT. NA correspond to missing plants during the experiment or non-tested.

Line	All_2018	Jul_2018	Aug_2018	Sep_2018	All_2019	May_2019	Jun_2019	Jul_2019	Sep_2019	V_UT	V_WA
1_1_S283	0.469	0.708	0.366	0.052	0.412	0.511	0.065	-0.184	-0.086	4.0	4.5
1_2_S295	1.159	1.756	1.263	0.469	1.060	0.783	0.846	0.770	0.659	4.0	3.5
1_3_S307	0.812	1.178	0.944	0.365	0.957	1.167	0.827	0.431	0.315	4.0	3.5
1_4_S319	0.599	1.083	0.639	0.300	0.867	0.999	0.715	0.625	0.279	4.0	4.0
1_5_S331	0.934	1.301	1.074	0.576	0.779	1.272	0.945	0.739	0.378	4.0	4.0
1_6_S343	0.943	1.400	1.060	0.300	1.050	1.593	1.038	0.846	0.457	4.0	4.5
1_7_S284	0.854	1.530	1.034	0.290	0.914	1.280	1.377	0.913	0.450	5.0	5.0
1_8_S296	1.057	1.877	1.160	0.344	0.976	1.897	1.248	0.934	0.336	3.0	3.5
10_2_S339	0.772	1.004	0.752	0.245	0.945	1.347	0.892	0.627	0.283	3.0	3.0
10_3_S351	0.245	0.627	0.321	0.126	0.495	0.704	0.508	0.355	0.224	3.0	2.5
10_6_S362	0.940	1.686	0.916	0.416	0.681	0.750	0.502	0.304	0.236	3.0	3.5
10_7_S373	1.005	1.038	1.247	0.573	1.374	1.075	1.180	1.180	0.868	4.0	4.0
10_8_S292	1.099	1.672	1.456	0.738	1.112	1.425	1.140	1.445	1.105	3.0	4.0
11_1_S304	0.655	0.996	0.987	0.286	0.305	0.900	0.599	0.650	0.341	2.0	2.5
11_2_S316	1.439	1.837	1.622	0.690	1.484	1.944	1.445	1.416	0.938	4.0	4.5
11_3_S328	1.344	1.936	1.235	0.753	1.007	1.206	0.830	0.794	0.919	3.0	3.5
11_4_S340	1.387	1.835	1.475	0.865	0.550	0.516	0.395	0.377	0.306	4.0	4.5
11_5_S352	0.487	0.637	0.453	0.299	0.410	0.731	0.588	0.438	0.181	4.0	3.0
11_6_S363	0.537	0.659	0.635	0.366	0.195	0.696	0.544	0.304	0.298	2.0	2.5
11_7_S374	1.126	1.379	1.042	0.792	1.027	1.419	1.082	1.379	0.885	4.0	4.0
11_8_S293	1.541	2.035	1.673	0.854	1.463	2.062	1.558	1.377	0.785	5.0	5.0
12_1_S305	1.283	1.587	1.438	0.541	1.232	1.385	1.458	1.228	0.756	5.0	4.5
12_2_S317	1.107	1.498	1.238	0.607	1.124	1.508	1.282	1.435	1.015	5.0	4.5
12_3_S329	0.709	1.108	0.758	0.384	0.841	1.183	0.858	0.473	0.238	5.0	5.0
12_4_S341	1.389	1.666	1.278	0.810	1.406	1.683	1.814	1.091	0.842	4.0	3.5
12_5_S353	1.074	1.362	1.127	0.337	1.472	1.828	1.374	1.205	0.659	4.0	4.0
12_6_S364	1.015	1.028	0.848	0.594	1.215	1.360	0.859	1.044	0.861	5.0	4.5
12_7_S375	1.277	1.790	0.958	0.818	1.332	1.504	1.349	1.440	0.661	4.0	4.0
12_8_S294	1.118	1.599	1.241	0.686	0.799	0.977	0.721	0.715	0.402	4.0	4.0
13_1_S306	1.495	2.167	1.867	0.918	1.684	2.560	1.933	1.692	1.198	5.0	5.0

13_2_S318	0.421	0.983	0.622	0.392	0.395	0.821	0.747	0.710	0.149	2.0	3.0
13_3_S330	2.236	2.595	2.047	1.513	1.779	2.752	1.889	1.659	0.978	5.0	4.5
13_4_S342	1.804	2.398	1.988	1.040	1.539	2.007	1.637	1.904	1.219	5.0	5.0
13_5_S354	1.118	1.296	1.154	0.682	0.542	1.148	0.816	0.755	0.568	3.0	3.0
13_6_S365	1.595	2.023	1.671	0.853	1.059	1.688	1.350	1.171	0.810	5.0	5.0
13_7_S376	0.941	1.336	0.997	0.653	0.765	1.409	1.378	1.328	0.281	4.0	4.5
13_8_S377	0.568	0.947	0.762	0.236	0.140	0.709	0.403	0.383	0.172	4.0	4.0
14_1_S388	0.889	1.163	1.008	0.499	1.071	1.329	1.117	1.071	0.730	3.0	3.0
14_2_S399	0.493	0.531	0.385	0.166	0.282	1.013	0.510	0.447	0.245	3.0	3.0
14_4_S411	0.572	0.730	0.568	0.213	0.298	0.777	0.343	0.390	0.284	4.0	4.5
14_5_S423	0.915	1.340	0.929	0.362	0.844	1.368	0.536	0.493	0.209	2.0	2.5
14_6_S435	0.572	0.619	0.553	0.240	0.455	0.726	0.590	0.536	0.357	3.0	3.5
14_8_S447	0.398	0.725	0.615	0.143	0.385	0.549	0.499	0.307	0.065	3.0	3.0
15_1_S459	0.964	1.009	0.922	0.388	0.499	0.580	0.379	0.577	0.580	4.0	3.5
15_2_S400	1.070	1.075	0.846	0.552	0.707	0.618	0.461	0.507	0.485	4.0	4.5
15_4_S412	2.174	2.557	2.475	1.426	1.978	2.469	2.029	2.269	1.245	4.0	4.5
15_5_S424	0.827	1.469	1.146	0.353	0.583	1.077	0.680	1.122	0.682	3.0	2.5
15_7_S436	1.249	1.699	1.388	0.936	0.838	0.772	0.661	0.758	0.583	5.0	5.0
15_8_S448	1.856	2.163	2.203	1.250	1.248	1.464	1.353	1.719	1.587	3.0	3.5
16_1_S460	1.247	1.887	1.316	0.458	NA	NA	NA	NA	NA	4.0	4.0
16_2_S378	1.254	1.667	1.358	0.694	1.403	1.542	1.500	1.573	1.015	4.0	4.0
16_3_S389	0.815	1.422	1.026	0.226	1.102	1.661	1.226	0.890	0.286	3.0	3.5
16_4_S401	2.262	3.445	2.234	1.069	1.634	2.689	2.124	1.319	0.364	4.0	4.5
16_5_S413	0.881	1.623	1.010	0.590	1.088	1.435	1.315	1.198	0.396	3.0	3.5
16_6_S425	0.969	2.093	1.081	0.399	0.678	1.099	0.645	0.559	0.605	3.0	3.0
16_7_S437	0.694	1.094	0.788	0.465	0.145	0.516	0.089	0.059	0.002	4.0	3.5
16_8_S449	0.993	1.678	0.957	0.671	0.710	1.308	0.770	0.774	0.295	4.0	4.0
17_1_S461	0.874	1.363	0.873	0.499	0.939	1.250	1.159	1.099	0.699	3.0	3.0
17_2_S379	1.571	2.413	1.567	0.964	1.483	1.851	1.273	1.328	1.060	2.0	3.5
17_3_S390	0.595	0.983	0.599	0.302	0.853	1.511	0.969	0.773	0.348	2.0	3.0
17_4_S402	1.317	1.733	0.990	0.460	0.689	1.142	1.030	0.834	0.543	4.0	4.0
17_5_S414	1.024	1.733	0.844	0.356	0.405	0.553	0.284	0.250	0.280	4.0	4.0
17_6_S426	1.162	1.456	1.043	0.555	0.683	0.323	0.683	0.773	0.745	5.0	4.5
17_7_S438	1.134	1.731	0.952	0.599	1.058	1.664	0.945	0.876	0.563	4.0	4.0

17_8_S450	1.445	1.995	1.690	0.869	1.220	1.879	1.884	1.828	1.097	1.0	3.0
18_1_S462	1.230	1.912	1.339	0.592	0.838	1.553	1.290	1.604	0.649	4.0	4.5
18_2_S380	1.342	1.974	1.523	0.630	1.035	1.239	1.269	1.440	0.882	3.0	3.5
18_3_S391	0.958	1.881	1.299	0.224	0.594	1.547	1.236	0.753	0.349	4.0	4.5
18_4_S403	0.590	0.806	0.854	0.227	0.649	1.152	0.815	0.702	0.429	3.0	3.5
18_5_S415	1.115	1.304	1.153	0.599	0.060	0.183	-0.050	NA	NA	3.0	3.5
18_6_S427	0.910	1.143	0.831	0.198	1.037	1.430	0.931	0.721	0.340	2.0	3.0
18_7_S439	1.393	1.620	1.268	0.634	1.364	1.456	1.089	1.046	0.804	4.0	4.5
18_8_S451	0.612	0.917	0.644	0.288	0.490	0.205	0.103	0.040	0.075	3.0	3.5
19_1_S463	1.448	1.787	1.455	1.006	0.944	1.330	0.813	0.625	0.868	2.0	3.0
19_2_S381	1.609	2.342	1.746	1.068	0.667	0.923	0.568	0.796	0.623	5.0	5.0
19_3_S392	0.990	1.871	1.411	0.791	1.226	1.559	1.076	0.892	0.843	4.0	3.5
19_4_S404	1.170	1.590	1.600	0.953	1.226	1.577	1.210	0.910	0.696	3.0	3.0
19_5_S416	0.539	1.039	1.270	0.205	0.403	0.679	0.542	0.356	0.209	3.0	3.0
19_7_S428	1.089	1.828	1.583	0.437	0.048	0.068	-0.176	NA	NA	5.0	4.5
19_8_S440	1.290	1.326	1.159	0.778	0.638	0.919	0.895	0.846	0.137	4.0	4.0
2_1_S308	1.494	1.680	1.566	0.937	0.986	1.279	0.897	0.696	0.446	4.0	4.5
2_2_S320	0.953	1.284	1.051	0.605	0.708	0.812	0.753	0.410	0.544	4.0	4.0
2_3_S332	0.867	1.286	1.000	0.531	0.635	0.729	0.545	0.436	0.223	4.0	4.0
2_4_S344	0.999	1.411	0.852	0.494	0.914	1.124	0.964	0.774	0.635	4.0	4.0
2_5_S355	0.851	0.944	0.731	0.453	0.327	0.312	0.527	0.617	0.750	5.0	4.5
2_6_S366	0.882	0.853	0.730	0.622	1.038	1.022	0.737	0.489	0.588	5.0	5.0
2_7_S285	1.283	1.625	1.478	0.940	1.136	1.192	1.202	0.923	1.007	5.0	5.0
2_8_S297	0.876	1.243	1.383	0.570	1.078	1.775	1.407	1.054	0.766	4.0	4.0
20_1_S452	1.697	2.627	1.901	0.895	1.625	1.938	1.458	1.474	0.937	5.0	5.0
20_2_S464	1.029	1.472	0.878	0.497	0.847	1.163	0.809	0.768	0.511	5.0	4.5
20_3_S382	0.984	1.494	1.076	0.516	0.463	1.029	0.643	0.788	0.357	5.0	5.0
20_4_S393	1.122	1.814	1.391	0.871	0.132	0.806	0.732	0.796	0.424	4.0	4.0
20_5_S405	2.035	2.570	2.109	1.071	1.362	2.534	1.625	1.483	0.823	5.0	5.0
20_6_S417	1.188	1.785	1.302	0.631	0.971	1.752	1.382	0.855	0.468	5.0	4.5
20_7_S429	1.012	1.360	1.234	0.560	0.019	0.676	0.494	0.234	0.366	5.0	4.0
20_8_S441	1.542	2.197	1.505	0.820	1.073	1.094	1.466	1.884	0.812	.	5.0
21_1_S453	1.107	1.363	1.095	0.692	0.762	1.249	0.704	1.353	1.170	5.0	4.5
21_2_S465	0.362	0.441	0.566	0.490	NA	NA	NA	NA	NA	4.0	3.0

21_3_S383	1.815	2.243	1.767	1.127	2.087	1.833	3.132	2.980	1.714	4.0	4.0
21_4_S394	2.157	2.946	2.273	1.267	1.439	1.638	1.031	2.362	1.036	5.0	5.0
21_5_S406	1.637	2.640	1.906	0.938	2.005	2.564	1.813	1.912	1.014	4.0	4.5
21_6_S418	1.127	1.761	1.588	0.690	1.870	1.308	1.065	2.331	1.808	5.0	5.0
21_7_S430	1.348	2.218	1.728	0.810	0.646	0.970	0.923	0.822	0.203	5.0	4.0
21_8_S442	0.426	0.887	0.451	0.228	0.728	0.728	NA	NA	NA	3.0	4.0
22_2_S454	0.910	1.234	0.954	0.270	0.982	0.853	0.998	0.818	0.496	3.0	2.5
22_3_S466	1.275	2.468	1.110	0.817	1.057	1.461	1.348	1.254	0.743	4.0	4.0
22_4_S384	1.672	2.266	1.425	0.911	1.308	1.669	1.451	1.275	0.655	4.0	4.5
22_5_S395	1.615	2.329	1.815	1.164	1.305	1.415	1.385	1.633	0.933	3.0	3.0
22_6_S407	1.740	2.229	1.872	1.276	1.541	2.076	1.779	1.689	1.101	4.0	4.5
22_7_S419	0.723	1.032	0.811	0.484	0.290	0.615	0.599	0.458	0.307	3.0	3.5
22_8_S431	0.851	1.272	0.644	0.557	0.739	1.458	1.064	0.863	0.551	4.0	4.5
23_1_S443	0.972	1.311	1.138	0.525	0.333	0.641	1.073	0.689	0.334	5.0	4.5
23_2_S455	0.970	1.185	0.922	0.329	0.954	1.431	1.122	0.768	0.309	5.0	4.5
23_3_S467	1.208	1.681	1.254	0.522	1.013	1.483	0.917	0.334	0.123	4.0	4.5
23_4_S385	1.755	2.254	1.545	0.908	1.365	1.472	1.456	1.217	0.643	5.0	5.0
23_5_S396	1.153	1.660	1.490	0.728	0.642	1.363	0.826	0.780	0.623	5.0	4.5
23_6_S408	1.080	1.520	1.189	0.579	0.939	1.577	1.110	0.749	0.375	4.0	3.5
23_7_S420	0.760	1.231	0.951	0.268	0.923	1.397	1.043	1.019	0.700	5.0	4.0
23_8_S432	1.599	1.828	1.735	1.093	1.304	1.634	1.190	1.348	1.010	3.0	3.0
24_1_S444	0.996	1.165	1.432	0.352	0.713	1.171	0.656	0.328	0.352	4.0	3.5
24_2_S456	0.698	0.563	0.608	0.524	0.481	0.513	0.518	0.833	0.660	2.0	2.5
24_3_S468	1.195	1.752	1.330	0.573	1.033	1.274	1.135	1.742	0.977	5.0	4.0
24_4_S386	0.858	0.994	0.823	0.577	0.560	0.916	0.475	0.550	0.340	4.0	3.5
24_5_S397	0.715	0.533	0.667	0.167	NA	NA	NA	NA	NA	3.0	3.0
24_6_S409	0.864	1.164	0.976	0.387	0.474	0.621	0.500	0.484	0.383	3.0	3.0
24_7_S421	0.827	1.462	0.921	0.432	0.502	0.830	0.628	0.567	0.424	5.0	4.5
24_8_S433	1.253	1.819	1.166	0.656	0.894	1.782	0.729	0.733	0.260	3.0	3.5
26b_1_S434	1.224	1.165	2.417	0.738	-0.813	0.435	NA	NA	NA	NA	NA
26b_2_S446	0.746	1.401	0.693	0.537	0.786	0.967	0.943	0.578	0.204	NA	NA
26b_3_S458	0.644	0.233	1.215	0.264	0.436	0.791	0.479	0.662	0.457	NA	NA
26b_4_S470	0.985	1.361	1.215	0.818	1.065	1.340	1.042	2.413	0.697	NA	NA
26b_5_S471	0.614	0.945	0.396	0.322	1.733	1.513	1.659	1.544	0.975	NA	NA

26b_6_S483	1.054	1.636	1.111	0.711	1.210	1.269	1.065	1.013	0.605	NA	NA
26b_7_S495	0.808	0.901	0.772	0.446	0.289	0.694	0.170	NA	NA	NA	NA
26b_8_S506	1.403	1.309	1.395	0.996	0.869	0.509	NA	NA	NA	NA	NA
27_1_S517	0.447	0.694	0.606	0.426	0.212	0.370	0.567	0.489	0.215	5.0	4.5
27_3_S529	1.781	2.575	1.878	1.107	1.412	2.023	1.800	1.618	1.137	4.0	4.0
27_4_S541	1.675	2.120	1.680	1.168	1.123	1.735	1.427	1.455	0.592	4.0	3.5
27_7_S553	1.121	1.465	1.281	0.606	1.075	1.154	1.310	1.177	0.860	4.0	3.5
27_8_S472	1.094	1.553	1.267	0.652	1.008	1.188	1.322	1.165	0.593	5.0	4.0
28_1_S484	1.268	1.862	1.471	0.679	0.736	0.895	0.777	0.629	0.653	5.0	4.5
28_2_S518	0.866	0.950	0.976	0.572	0.336	0.436	NA	NA	NA	5.0	4.5
28_3_S530	0.767	1.079	0.514	1.199	0.485	0.998	0.593	0.064	0.099	4.0	3.0
28_4_S542	1.212	2.138	1.224	0.455	0.496	1.164	0.630	0.357	0.443	5.0	4.5
28_5_S554	1.015	1.471	0.771	0.469	1.034	1.010	0.540	0.305	0.493	5.0	5.0
28_6_S473	1.496	2.069	1.878	0.822	1.055	2.071	1.412	1.619	1.007	4.0	4.0
28_7_S485	1.701	1.915	1.676	0.980	1.092	1.003	1.203	1.261	1.088	4.0	0.0
28_8_S496	1.074	1.644	1.217	0.360	0.788	1.395	1.126	0.953	0.431	4.0	3.5
29_1_S507	1.167	1.715	1.216	0.463	0.847	1.621	0.787	0.422	0.483	4.0	3.5
29_2_S519	0.699	0.995	0.610	0.384	1.190	1.282	1.120	1.010	0.474	3.0	3.0
29_3_S531	1.045	1.431	1.510	0.608	0.475	1.285	0.857	0.431	0.557	4.0	3.5
29_4_S543	1.792	2.541	1.736	0.698	1.462	2.327	2.147	2.408	1.055	4.0	4.0
29_5_S555	1.680	2.328	1.586	0.883	1.383	2.008	1.291	0.957	0.732	4.0	4.0
29_6_S474	1.084	1.376	1.267	0.587	-0.109	0.089	0.274	0.217	NA	3.0	3.0
29_7_S486	1.595	2.271	1.928	0.589	0.731	1.267	1.527	2.199	1.334	4.0	3.5
29_8_S497	0.891	1.003	1.266	0.410	0.646	0.873	1.321	1.260	0.881	5.0	4.0
3_1_S309	1.627	2.151	1.813	0.926	1.769	1.727	1.211	1.256	0.725	4.0	4.0
3_2_S321	1.190	1.735	1.333	0.582	0.778	1.154	0.758	0.809	0.758	2.0	3.5
3_3_S333	0.842	1.140	0.992	0.525	0.753	0.891	0.767	0.942	0.789	2.0	3.0
3_4_S345	1.041	1.726	1.071	0.565	0.937	1.794	1.369	0.955	0.179	4.0	4.0
3_5_S356	1.041	1.224	1.087	0.297	1.043	0.816	0.663	0.599	0.180	4.0	3.0
3_6_S367	0.858	0.969	0.819	0.413	0.632	0.938	0.737	0.435	0.418	4.0	4.0
3_7_S286	0.902	1.448	1.028	0.449	0.566	0.701	0.720	0.375	0.430	5.0	4.5
3_8_S298	0.956	1.526	1.121	0.497	0.285	0.493	0.355	0.356	0.390	3.0	3.0
30_2_S508	0.683	0.838	0.650	0.438	0.689	0.744	0.639	0.909	0.618	4.0	4.0
30_3_S520	1.469	2.138	1.652	1.128	1.435	1.724	1.640	1.665	1.091	3.0	3.0

30_4_S532	1.583	2.214	1.462	0.695	0.790	0.807	0.834	0.453	0.098	3.0	3.5
30_5_S544	2.148	2.452	2.194	1.232	NA	NA	NA	NA	NA	4.0	4.0
30_6_S556	1.203	1.607	1.397	0.643	0.772	1.323	1.238	1.471	0.776	3.0	4.0
30_7_S475	1.027	1.490	1.166	0.758	1.007	1.426	0.598	1.558	0.728	3.0	3.5
30_8_S487	1.168	1.523	1.406	0.760	-0.281	0.401	0.109	-0.134	NA	4.0	4.0
31_1_S498	1.388	2.004	1.699	0.749	0.754	1.253	0.824	0.480	0.351	5.0	5.0
31_2_S509	0.885	1.173	0.874	0.414	0.705	0.663	0.431	1.003	0.468	3.0	3.0
31_3_S521	1.167	1.492	1.144	0.571	1.140	1.428	1.293	1.212	0.854	3.0	3.5
31_4_S533	1.504	2.090	1.179	0.626	0.637	1.156	1.271	1.126	0.558	3.0	3.5
31_5_S545	1.286	1.566	1.373	0.852	0.945	1.190	1.081	1.169	0.634	3.0	3.0
31_6_S557	0.874	1.028	0.862	0.343	0.389	0.658	0.360	0.229	0.117	3.0	3.0
31_7_S476	0.651	0.757	0.745	0.277	0.882	0.897	0.729	0.289	0.175	4.0	4.0
31_8_S488	0.567	0.884	0.514	0.254	0.584	0.719	0.676	0.499	0.343	3.0	3.0
32_1_S499	1.114	1.732	1.192	0.445	1.428	1.636	1.102	0.959	0.702	3.0	3.0
32_2_S510	0.740	1.022	0.978	0.541	0.840	0.814	0.764	0.436	NA	4.0	4.0
32_3_S522	0.879	1.059	0.787	0.444	1.015	0.925	0.985	0.718	0.502	2.0	2.0
32_4_S534	0.975	1.136	1.329	0.478	0.191	0.461	0.425	0.690	0.337	3.0	3.0
32_5_S546	0.884	1.172	0.954	0.392	0.751	0.701	0.547	0.539	0.355	3.0	2.5
32_6_S558	0.981	1.361	1.015	0.551	0.555	0.822	0.896	1.112	0.598	3.0	3.0
32_7_S477	0.712	1.015	0.833	0.301	0.709	0.936	0.844	0.645	0.402	3.0	2.5
32_8_S489	0.738	1.252	0.458	0.507	0.323	0.486	0.394	0.399	0.323	4.0	3.0
33_1_S500	1.127	1.560	1.485	0.569	0.354	1.147	1.044	0.898	0.510	4.0	4.0
33_2_S511	0.727	0.698	0.526	0.165	0.541	0.624	0.577	0.395	0.144	2.0	2.5
33_3_S523	0.893	1.190	0.955	0.300	0.343	0.717	0.870	0.433	0.216	3.0	3.5
33_4_S535	1.014	1.513	1.315	0.699	1.216	1.664	1.374	1.275	0.747	3.0	3.5
33_5_S547	1.414	2.053	1.700	0.804	1.047	2.450	1.772	1.304	0.594	3.0	3.5
33_6_S559	1.018	1.256	1.055	0.440	1.270	1.359	1.465	1.100	0.647	3.0	3.5
33_7_S478	0.545	1.136	0.590	0.220	0.404	1.074	1.102	0.879	0.440	3.0	3.0
33_8_S490	0.886	1.611	0.854	0.292	0.693	1.179	0.918	0.595	0.411	3.0	3.5
34_1_S501	0.496	0.624	0.761	0.350	0.587	0.783	0.522	0.437	0.239	3.0	2.5
34_2_S512	0.827	1.160	0.853	0.157	0.978	1.742	0.650	0.420	0.124	3.0	2.5
34_3_S524	0.670	1.141	1.189	0.597	0.603	0.705	0.811	0.569	0.428	4.0	3.5
34_4_S536	1.626	1.888	2.013	0.946	0.798	0.737	0.663	0.473	0.470	4.0	4.0
34_5_S548	0.895	0.745	0.798	0.426	0.911	0.793	0.758	0.695	0.324	4.0	3.5

34_6_S560	1.037	1.280	1.059	0.621	1.445	1.491	1.386	1.286	1.209	4.0	3.5
34_7_S479	1.251	2.041	1.619	0.470	1.781	1.637	1.603	1.333	0.841	4.0	3.5
34_8_S491	1.223	1.492	1.112	0.347	1.110	2.033	1.089	0.888	0.643	3.0	3.0
35_1_S502	0.912	1.257	0.959	0.653	0.062	0.017	NA	NA	NA	3.0	3.5
35_2_S513	0.477	0.780	0.554	0.410	0.196	0.444	0.489	0.361	0.297	3.0	3.0
35_3_S525	1.544	2.040	1.829	0.960	1.111	1.546	1.331	1.285	0.952	3.0	3.5
35_4_S537	0.816	0.912	1.133	0.478	NA	NA	NA	NA	NA	3.0	3.0
35_5_S549	1.222	1.622	1.391	0.797	0.401	0.697	0.829	0.726	0.883	1.0	2.0
35_6_S561	1.023	1.211	1.077	0.614	0.634	1.269	1.223	1.011	0.218	4.0	3.5
35_7_S480	0.682	1.116	0.458	0.217	0.194	0.507	0.386	0.493	0.162	2.0	2.5
35_8_S492	0.694	0.979	0.811	0.407	0.391	0.818	0.625	0.496	0.308	3.0	3.0
36_1_S503	0.590	0.727	0.831	0.397	0.326	0.297	0.390	0.437	0.285	4.0	4.0
36_2_S514	0.548	1.007	0.534	0.297	0.608	1.049	0.795	0.598	0.151	3.0	3.0
36_3_S526	1.122	1.886	1.130	0.590	0.815	0.867	0.954	1.360	0.655	4.0	3.5
36_4_S538	0.687	1.247	0.950	0.332	0.829	0.552	0.847	0.500	0.547	3.0	3.5
36_5_S550	1.270	2.071	1.085	0.394	0.491	1.056	0.406	0.336	0.146	5.0	4.5
36_6_S562	0.706	1.066	0.804	0.367	0.119	0.453	0.414	0.642	0.444	4.0	3.5
36_7_S481	0.597	1.141	0.841	0.266	0.269	0.803	0.417	0.142	0.287	4.0	4.0
36_8_S493	0.681	1.142	0.874	0.295	0.973	1.425	1.087	1.029	0.870	4.0	4.0
37_1_S504	1.165	1.727	1.448	0.733	0.753	0.789	0.353	0.360	0.334	4.0	3.5
37_2_S515	1.553	1.949	1.575	1.203	1.278	1.166	1.407	1.826	0.762	5.0	5.0
37_4_S527	0.642	0.779	0.667	0.313	0.005	0.398	0.553	0.488	0.537	4.0	3.5
37_5_S539	1.314	1.777	1.413	0.860	0.703	0.989	1.074	1.160	0.558	5.0	4.5
37_6_S551	1.048	1.374	1.181	0.737	0.623	1.262	1.025	1.167	0.639	5.0	4.5
37_7_S563	1.022	1.524	1.320	0.786	0.807	0.899	0.742	0.772	0.519	4.0	4.0
37_8_S482	1.243	1.338	1.242	0.840	0.025	0.296	NA	NA	NA	5.0	5.0
38_1_S494	1.601	2.094	1.727	1.069	0.954	0.561	0.558	0.756	0.572	4.0	4.5
38_3_S505	0.929	1.453	0.945	0.437	0.782	0.831	0.705	0.490	0.354	3.0	3.5
38_4_S516	1.046	1.555	1.047	0.501	0.654	1.096	0.859	0.311	0.439	3.0	3.5
38_5_S528	1.639	2.007	2.042	0.926	1.205	1.757	1.829	1.478	1.168	3.0	3.5
38_6_S540	1.304	2.354	1.231	0.686	1.262	1.851	1.548	1.422	0.888	4.0	4.0
38_7_S552	2.079	3.024	2.140	1.171	2.732	2.837	2.947	2.540	1.235	3.0	3.5
38_8_S564	1.366	2.032	1.368	0.812	0.509	0.552	0.374	0.265	0.244	4.0	5.0
4_1_S310	1.120	1.712	1.437	1.024	0.854	1.170	1.107	1.027	0.753	5.0	3.5

4_2_S322	0.832	1.502	1.018	0.507	-0.126	0.223	0.296	0.170	0.097	.	2.0
4_3_S334	1.237	2.071	1.130	0.614	0.626	0.719	0.992	0.757	0.716	4.0	4.0
4_4_S346	0.751	0.834	0.747	0.511	0.704	0.852	0.549	0.584	0.562	3.0	2.5
4_5_S357	1.130	1.319	1.124	0.432	0.465	0.378	0.599	0.582	0.268	3.0	3.0
4_6_S368	1.035	1.370	1.146	0.575	1.216	1.409	1.465	1.473	0.926	5.0	4.5
4_8_S287	1.645	1.840	1.677	1.269	1.334	1.348	1.380	1.602	1.211	5.0	5.0
5_2_S299	0.917	1.214	1.034	0.521	0.669	1.075	0.816	0.940	0.697	4.0	4.0
5_4_S311	1.180	1.440	1.268	0.891	1.203	1.406	0.994	1.509	1.037	3.0	3.5
5_6_S323	0.831	0.917	0.936	0.499	1.432	1.479	1.441	1.346	0.949	3.0	3.0
5_7_S335	0.873	1.206	0.796	0.616	0.683	1.263	0.851	0.788	0.407	3.0	3.5
5_8_S347	1.027	1.368	1.165	0.787	0.044	0.547	0.623	0.686	0.679	4.0	0.0
6_1_S358	1.319	1.556	1.250	0.578	0.662	0.542	0.489	0.475	0.744	3.0	3.5
6_2_S369	0.964	1.021	0.884	0.446	0.775	1.507	0.741	0.654	0.614	2.0	0.0
6_3_S288	1.076	1.397	1.006	0.416	0.590	0.655	0.494	0.662	0.322	3.0	0.0
6_4_S300	0.990	1.292	1.209	0.385	0.455	0.760	0.692	0.640	0.408	3.0	0.0
6_5_S312	1.015	1.498	1.150	0.715	0.781	0.926	1.167	0.798	0.677	3.0	3.5
6_6_S324	1.070	1.171	1.351	0.537	1.078	1.436	1.117	1.117	0.815	4.0	0.0
6_7_S336	1.000	1.399	1.108	0.687	0.471	0.271	0.422	0.500	0.501	4.0	0.0
6_8_S348	0.922	1.324	1.107	0.298	1.163	1.448	1.316	0.838	0.106	3.0	3.0
7_1_S359	2.480	3.102	2.832	1.327	2.534	3.031	2.778	2.905	1.172	2.0	3.0
7_2_S370	1.157	2.000	1.449	0.716	1.355	2.041	1.562	1.462	0.839	4.0	3.5
7_3_S289	1.356	2.150	1.338	1.033	0.960	1.260	1.349	1.344	0.815	4.0	4.0
7_4_S301	1.532	2.079	1.523	0.991	1.187	2.136	1.690	1.606	0.834	4.0	4.0
7_5_S313	0.925	1.456	0.908	0.471	0.806	1.253	0.908	1.110	0.591	4.0	4.0
7_6_S325	1.523	2.193	1.798	0.822	1.197	1.610	1.337	1.068	0.930	4.0	4.0
7_7_S337	1.579	2.324	1.571	0.781	1.531	1.705	1.694	1.676	0.971	4.0	0.0
7_8_S349	1.771	2.467	2.023	1.237	1.472	2.101	1.739	1.845	1.130	5.0	4.5
8_1_S360	0.904	1.204	1.062	0.440	1.372	1.785	1.357	1.346	1.060	5.0	5.0
8_2_S371	1.332	1.558	1.344	0.955	1.492	1.946	1.598	1.467	0.894	5.0	4.5
8_3_S290	0.552	0.989	0.783	0.412	0.918	1.240	0.801	0.877	0.715	4.0	4.0
8_5_S302	1.176	1.393	1.280	0.745	0.748	0.809	1.241	1.102	0.986	4.0	4.0
8_6_S314	0.982	1.290	1.000	0.549	0.925	1.246	0.508	0.868	0.683	4.0	4.0
8_7_S326	0.696	0.698	1.084	0.135	0.502	0.582	0.830	0.215	0.281	3.0	3.0
8_8_S338	0.832	0.960	0.689	0.454	1.071	1.753	1.269	0.610	0.302	4.0	4.5

9_1_S350	1.349	1.809	1.288	0.640	0.774	0.693	0.743	1.393	0.576	5.0	4.0
9_2_S361	1.109	1.251	1.059	0.582	0.990	1.794	1.364	1.186	0.719	4.0	4.5
9_3_S372	0.787	1.092	0.755	0.444	0.711	1.231	0.654	0.526	0.342	4.0	3.5
9_4_S291	1.621	2.367	1.555	0.629	1.407	2.141	1.618	1.509	0.570	3.0	3.5
9_5_S303	1.052	1.261	1.397	0.299	0.629	1.199	0.554	0.272	0.087	4.0	3.5
9_7_S315	1.556	2.258	1.651	0.821	2.026	2.876	1.942	1.820	1.052	4.0	3.5
9_8_S327	0.479	0.951	0.751	0.334	0.424	0.779	0.736	0.647	0.326	4.0	4.5