

Supplementary Table S1. PC scores of soybean germplasm lines (>1 eigen value)

S.No.	Genotype	RC1	RC2	RC3	RC4	RC5
1	AS 24	-1.312	-0.471	0.837	-0.504	-0.920
2	AUS 32	-0.776	0.157	-0.364	-0.120	-0.888
3	AMS 56	-1.004	-0.376	0.786	1.289	0.949
4	AMS 77	0.781	-0.568	-0.952	0.981	-1.241
5	AMS 77-3-6	-0.907	-0.458	-1.144	-0.119	0.170
6	AMS 264	-0.907	-0.126	1.670	0.510	0.800
7	AMS 269	-0.937	0.860	1.741	0.714	0.855
8	AMS 358	-0.937	0.860	1.741	0.714	0.855
9	AMS 475	-1.059	-0.473	1.564	0.879	0.866
10	AMS 4873	-1.102	-0.887	-0.013	0.361	0.374
11	AUKS 199	-0.918	-0.048	-0.258	0.015	0.262
12	AUKS 203	-0.907	-0.458	-1.144	-0.119	0.170
13	AUKS 206	-0.961	-0.555	-0.365	-0.529	0.088
14	AUKS 207	-1.001	-0.400	-0.741	-0.212	0.213
15	AUKS 218	-0.666	0.385	-0.180	-1.811	-1.168
16	AMS MB 5-19	0.853	-0.265	-0.044	-0.487	-1.462
17	AMS 2014-1	-1.125	-0.659	0.173	-1.431	-0.509
18	B 327	-0.834	2.213	-0.267	0.008	-0.503
19	B 1667	-0.402	1.206	-0.847	0.437	-0.679
20	BAUS 116	0.789	0.803	0.163	0.196	-1.112
21	CAT 489A	-0.653	5.206	-1.040	-0.225	0.160
22	DCB 137	1.112	-0.274	-0.325	1.824	-0.072
23	DS 3104	-0.580	0.182	-0.957	-0.168	0.110
24	DS 3109	0.437	-0.429	-0.076	-1.008	-0.053
25	DS 3124	-1.136	-0.248	1.058	-1.298	-0.417
26	ERS 1344	0.628	-0.355	2.209	-0.361	-1.551
27	EC 481571	-0.703	1.226	-0.483	-0.058	0.208
28	EC 389149	-0.704	1.140	-0.437	0.223	-0.070
29	EC 350664	-1.065	-0.725	-0.127	-0.108	-1.230
30	EC 313915	-1.075	5.426	0.283	-1.602	-0.213
31	EC 389179 B	-1.011	-0.628	-0.906	0.303	-1.147
32	G 11	0.907	-0.169	-0.823	-0.077	-1.379
33	G 448	0.407	-0.399	0.461	-2.469	-0.773
34	GW 50	-1.362	-0.820	0.588	0.004	-0.090
35	GW 70	0.599	0.612	-0.319	0.882	-0.920
36	GW 75	1.225	0.389	-0.704	2.135	0.464
37	GW 76	-1.557	-0.896	-0.245	0.085	-0.152
38	GW 85	1.205	0.210	-0.061	1.246	0.086

S.No.	Genotype	RC1	RC2	RC3	RC4	RC5
39	GW 89	-0.686	5.374	-0.952	-0.025	0.732
40	GW 108	-0.966	4.912	-0.795	0.077	-0.591
41	GW 152	0.400	-0.456	0.204	-2.515	-1.580
42	GW 175	0.487	-0.590	-0.715	0.243	-0.800
43	JS 20-20	-1.102	-0.468	-0.457	-1.464	-0.054
44	JS 20-50	1.049	0.208	-0.607	0.723	-1.078
45	JS 20-78	1.008	-0.170	-0.968	0.063	-0.616
46	JS 20-86	0.588	-0.591	-0.860	0.381	-0.036
47	JS 20-96	0.599	0.612	-0.319	0.882	-0.920
48	JS 21-05	0.798	-0.381	-0.914	0.222	-0.326
49	JS 21-06	-0.907	-0.458	-1.144	-0.119	0.170
50	JS 21-08	0.651	-0.653	2.164	0.318	-0.172
51	JS 21-13	0.729	-0.376	-0.535	0.817	-0.211
52	JS 21-71	1.008	-0.170	-0.968	0.063	-0.616
53	JS 21-74	-1.159	-0.451	0.126	0.197	1.646
54	JS 21-75	-1.008	-0.104	0.231	-0.173	1.580
55	JS 21-78	0.419	-0.657	-0.451	0.268	1.177
56	JS 22-01	0.603	-0.320	-0.367	-0.011	-1.046
57	JS 22-02	-1.120	-0.840	-0.997	0.600	-0.094
58	JS 22-03	-1.011	-0.628	-0.906	0.303	-1.147
59	JS 22-04	-1.008	-0.104	0.231	-0.173	1.580
60	JS 22-05	0.746	-0.018	-0.264	0.219	1.116
61	JS 22-07	0.395	-1.072	-0.979	0.821	-0.957
62	JS 22-08	0.697	-0.379	-0.769	0.083	-1.090
63	JS 22-09	0.611	-0.263	-0.109	0.035	-0.239
64	JS 22-12	-0.796	-0.369	0.872	0.677	1.882
65	JS 22-13	1.225	0.407	0.944	1.017	-0.755
66	JS 22-14	-1.023	-0.591	-0.113	-0.179	-0.243
67	JS 22-15	0.916	-0.475	1.259	-0.036	-0.874
68	JS 22-16	0.880	-0.260	-0.340	0.735	0.700
69	JS 22-17	0.643	-0.476	0.011	-0.328	-1.172
70	JS 22-18	-1.273	-0.834	-0.026	-1.622	0.111
71	JS 22-21	0.758	-0.149	0.413	0.675	0.529
72	JS 22-30	-0.853	-0.543	0.274	0.852	0.929
73	JS 22-32	-0.994	0.259	-0.200	0.234	-0.412
74	JS 22-35	0.978	-0.244	2.440	0.557	0.744
75	JS 22-38	0.510	-0.262	0.037	-0.104	-1.003
76	JS 22-39	-0.912	0.474	-1.096	0.774	0.296
77	JS 22-41	-1.128	-0.733	0.385	-1.280	1.210
78	JS 22-43	-1.367	-0.775	0.377	-1.715	0.154
79	JS 22-44	-1.381	0.482	0.942	-1.903	-0.803

S.No.	Genotype	RC1	RC2	RC3	RC4	RC5
80	JS 22-48	0.999	-0.141	-0.857	1.230	-0.248
81	JS 22-49	-0.375	0.147	-0.706	0.385	0.985
82	JS 22-53	1.406	1.603	0.962	1.061	-0.990
83	JS 23-02	0.444	-0.999	-0.438	-0.012	0.278
84	JS 23-03	-1.211	-0.610	-0.687	-0.053	0.503
85	JS 23-05	1.094	0.260	0.893	-0.297	0.305
86	JS 23-06	0.981	0.047	1.128	0.723	1.216
87	JS 23-07	-0.991	-0.500	0.239	-1.040	-1.491
88	JS 23-09	-1.117	-0.669	-1.090	0.041	0.460
89	JS 23-10	-0.928	-0.154	0.898	0.901	2.051
90	JS 24-23	-1.055	-0.301	1.471	0.320	1.419
91	JS 24-25	0.842	0.073	0.729	-0.924	0.492
92	JS 24-26	0.944	0.805	0.709	0.719	0.053
93	JS 24-27	0.744	-0.478	-0.135	-0.189	-0.408
94	JS 24-28	-1.214	-0.782	-0.594	0.507	-0.051
95	JS 24-29	1.962	0.520	-0.825	-0.351	0.814
96	JS 24-30	-0.745	0.075	-0.084	0.895	-0.286
97	JS 24-32	0.401	-0.474	-0.055	0.194	0.052
98	JS 24-33	-1.117	-0.669	-1.090	0.041	0.460
99	JS 24-34	-1.147	0.317	-1.018	0.244	0.514
100	JSM 126	0.694	0.767	0.645	-1.514	-1.163
101	JSM 230	0.647	-0.727	-1.019	0.590	-0.260
102	JSM 242	0.437	-0.938	-0.965	0.750	0.031
103	JSM 283	-0.925	-0.391	-0.337	0.436	0.176
104	KDS 32	-0.503	0.514	0.485	-0.129	0.307
105	KDS 1201	-0.945	0.589	-1.598	0.846	-0.023
106	MAUS 791	-1.055	-0.301	1.471	0.320	1.419
107	MACS 1370	-1.120	-0.840	-0.997	0.600	-0.094
108	NRC 125	-0.794	0.457	-0.569	0.987	0.771
109	NRC 130	0.801	-0.209	-1.007	-0.339	0.228
110	NRC 137	0.595	0.210	-0.136	1.728	-0.497
111	NRC 150	0.845	-0.177	-0.312	-1.248	1.061
112	NRC 166	-0.923	0.714	-0.708	0.047	0.998
113	NRC 178	-0.933	0.028	2.066	-1.131	1.636
114	NRC 181	2.504	0.058	-1.508	-2.002	2.799
115	NRC 186	-0.828	0.540	-0.434	1.466	1.066
116	NRC 189	0.665	-0.485	-0.072	1.318	1.179
117	NRC 190	-0.798	-0.447	-0.506	1.263	1.012
118	NRC 192	0.410	0.220	-0.986	0.394	0.638
119	NRC 196	0.647	-0.727	-1.019	0.590	-0.260
120	NRC 201	0.974	-0.088	-0.833	0.542	-0.320

S.No.	Genotype	RC1	RC2	RC3	RC4	RC5
121	NRC SL 1	-0.647	-0.100	-0.401	0.894	0.946
122	PS 1092	0.617	0.259	-0.947	0.794	-0.205
123	PS 1569	0.712	-0.189	1.449	0.309	1.254
124	PS 1589	-0.988	-0.328	0.146	-1.600	-0.938
125	PS 1611	-1.298	0.108	0.257	0.300	-0.079
126	PS 1613	0.801	-0.209	-1.007	-0.339	0.228
127	PS 1641	0.678	-0.095	-0.001	-0.943	-1.307
128	PS 1660	0.574	0.666	-0.295	0.193	-0.992
129	PS 1661	0.750	0.959	-0.214	0.513	-0.986
130	PS 1664	0.452	-0.667	-0.472	0.359	-0.980
131	PS 1670	0.779	-0.635	1.518	0.296	-0.035
132	PS 1675	1.049	0.089	0.613	-0.003	-0.997
133	PS 1682	0.796	-0.189	2.172	-1.199	-1.856
134	RSC 9	1.602	1.066	-1.336	-0.983	0.952
135	RVS 13-15	-0.987	-0.468	3.102	0.894	-0.365
136	RVS 13-20	0.573	-0.394	3.041	0.484	0.313
137	RSC 11-07	-1.438	0.265	0.025	0.479	-0.717
138	RSC 11-20	0.566	-0.546	-1.518	1.341	-0.646
139	RVS 2006-4	-0.915	-0.448	0.119	-1.590	-0.799
140	RVS 2011-1	0.912	0.398	0.740	-0.296	0.244
141	RVS 2011-10	0.548	-0.487	0.553	-1.535	-0.632
142	RVS 2011-12	0.487	0.463	1.182	1.018	1.195
143	RVSM 2012-4	0.566	-0.597	0.271	-0.891	-1.367
144	RVS 2012-10	0.598	0.005	1.485	0.868	0.087
145	RVS 2012-19	1.089	-0.183	1.666	1.007	-1.011
146	RVSM 2012-11	-1.138	-0.322	1.270	-1.147	1.302
147	SL 96	-1.219	-0.737	-0.805	-1.212	0.193
148	SL 955	1.207	1.304	2.961	-0.451	-1.686
149	SL 1213	0.962	1.016	3.259	-0.175	-1.576
150	VLS 58	0.546	-0.726	-0.874	0.452	-1.023
151	VLS 89	2.514	0.190	-1.462	-2.109	1.888
152	VLS 94	0.813	-0.110	-0.421	-0.170	-1.336
153	JS 25-46	1.074	-0.010	0.979	0.273	-0.192
154	JS 24-37	-1.084	-0.514	0.528	-1.703	0.414
155	JS 25-48	0.502	-0.594	0.070	-0.474	0.255
156	JS 25-50	-1.012	-0.698	-0.766	-0.812	-0.651
157	JS 25-53	0.553	-0.669	-0.616	0.497	-0.216
158	JS 25-52	-1.004	-0.571	-0.648	0.348	-0.340
159	JS 25-51	-1.102	-0.468	-0.457	-1.464	-0.054
160	JS 25-59	0.546	-0.726	-0.874	0.452	-1.023
161	JS 20-34	3.031	-0.305	-0.269	-3.279	4.408

S.No.	Genotype	RC1	RC2	RC3	RC4	RC5
162	JS 20-69	0.546	-0.726	-0.874	0.452	-1.023
163	JS 20-98	0.863	0.826	0.319	1.107	-0.810
164	JS 20-116	1.421	0.046	0.781	3.097	3.474
165	NRC 138	2.454	0.137	-0.895	-4.237	2.048