

Supplementary figures and tables

Genetic diversity in early maturity Chinese and European elite soybeans: A comparative analysis

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Suppl. Table 1. List of 156 elite soybean cultivars with descriptive information

Entry no.	Cultivar name	Region code ¹	Exp. grouping ²	Mat. group ³	Year ⁴	Breeder / origin	Country
1	CH22172 / OBELIX	2	1	000	2014	AGROSCOPE	Switzerland
2	CH21912 / PROTEIX	2	1	00	2009	AGROSCOPE	Switzerland
3	CH22138 / AMANDINE	2	1	00	2012	AGROSCOPE	Switzerland
4	CH22177 / GALICE	2	1	00	2015	AGROSCOPE	Switzerland
5	CH22315 / MARQUISE	2	1	00	2016	AGROSCOPE	Switzerland
6	CH21265 / ORION	2	2	0	1998	AGROSCOPE	Switzerland
7	CH22429	2	2	0	x	AGROSCOPE	Switzerland
8	CH22015 / CASTETIS	2	3	I	2010	AGROSCOPE	Switzerland
9	CH50111	2	3	I	x	AGROSCOPE	Switzerland
10	CH50051 / PACO	2	4	II	2012	AGROSCOPE	Switzerland
11	Atlanta	2	1	00	2013	Agroyoumis	Poland
12	Mavka	2	1	000	2013	Agroyoumis	Poland
13	ADA TD	2	2	0	2005	ARDS Turda	Romania
14	CRISTINA TV	2	2	0	2017	ARDS Turda	Romania
15	FELIX	2	1	00	2016	ARDS Turda	Romania
16	MIRUNA	2	1	00	2012	ARDS Turda	Romania
17	ERICA	2	1	000	2017	DANKO	Poland
18	PEPITA	2	2	0	2011	ERSA	Italy
19	AMMA	2	3	I	2016	ERSA	Italy
20	Ananda	2	3	I	2014	ERSA	Italy
21	BAHIA	2	3	I	2008	ERSA	Italy
22	Prana	2	3	I	2015	ERSA	Italy
23	ADONAI	2	4	II	2012	ERSA	Italy
24	Avatar	2	4	II	2018	ERSA	Italy
25	BLANCAS	2	4	II	2007	ERSA	Italy
26	Buenos	2	4	II	2011	ERSA	Italy
27	Guru	2	4	II	2018	ERSA	Italy
28	ES Senator	2	1	000	2012	Euralis / Lidea	France
29	ES Gladiator	2	2	0	2014	Euralis / Lidea	France
30	ES Tenor	2	2	0	2015	Euralis / Lidea	France
31	ES Indicator	2	3	I	2017	Euralis / Lidea	France
32	ES Mediator	2	4	II	2015	Euralis / Lidea	France
33	GK MEDAL	2	3	I	x	Gabonakutato	Hungary
34	GK SPIRIT	2	3	I	x	Gabonakutato	Hungary
35	PANNONIA KINCSE	2	3	I	2008	Gabonakutato	Hungary
36	Khutorianochka	2	1	000	2010	IFRAP	Ukraine
37	Oriana	2	1	000	2002	IFRAP	Ukraine
38	Triada	2	1	000	2015	IFRAP	Ukraine
39	Vezha	2	1	000	2010	IFRAP	Ukraine
40	NS Kaca	2	1	000	2013	IFVCNS	Serbia
41	Favorit	2	1	00	2010	IFVCNS	Serbia
42	Galina	2	2	0	2006	IFVCNS	Serbia
43	NS Atlas	2	2	0	2016	IFVCNS	Serbia
44	NS Maximus	2	2	0	2011	IFVCNS	Serbia
45	NS Mercury	2	2	0	2008	IFVCNS	Serbia
46	NS Princeza	2	2	0	2013	IFVCNS	Serbia

47	Dongnong 53	1	2	0	2008	Northeast Agricultural University	China
48	NS-L-201458	2	2	0	x	IFVCNS	Serbia
49	NS-L-401088	2	2	0	x	IFVCNS	Serbia
50	NS-L-401145	2	2	0	x	IFVCNS	Serbia
51	NS-L-401156	2	2	0	x	IFVCNS	Serbia
52	NS-L-401157	2	2	0	x	IFVCNS	Serbia
53	NS-L-501012	2	2	0	x	IFVCNS	Serbia
54	Tajfun	2	2	0	2010	IFVCNS	Serbia
55	Valjevka	2	2	0	2003	IFVCNS	Serbia
56	NS Fantast	2	4	II	2017	IFVCNS	Serbia
57	NS HOGAR	2	3	I	2013	IFVCNS	Serbia
58	NS Kraljica	2	4	II	2017	IFVCNS	Serbia
59	NS Zita	2	4	II	2013	IFVCNS	Serbia
60	Sava	2	4	II	2004	IFVCNS	Serbia
61	Trijumf	2	4	II	2009	IFVCNS	Serbia
62	Venera	2	4	II	2013	IFVCNS	Serbia
63	Ventis	2	4	II	2017	IFVCNS	Serbia
64	Victoria	2	4	II	2009	IFVCNS	Serbia
65	AUGUSTA	2	1	0000	2002	Poznan University of Life Sci.	Poland
66	Amadea	2	1	00	2014	Saatzucht Donau	Austria
67	Antonia	2	1	00	2015	Saatzucht Donau	Austria
68	Abelina	2	1	000	2016	Saatzucht Donau	Austria
69	Albenga	2	1	00	2016	Saatzucht Donau	Austria
70	Alexa	2	1	000	2017	Saatzucht Donau	Austria
71	Ancona	2	1	000	2015	Saatzucht Donau	Austria
72	Angelica	2	1	00	2017	Saatzucht Donau	Austria
73	Regina	2	1	000	2016	Saatzucht Donau	Austria
74	Christine	2	1	00	2007	Saatzucht Gleisdorf	Austria
75	GL Hermine	2	1	00	2010	Saatzucht Gleisdorf	Austria
76	Josefine	2	1	00	2006	Saatzucht Gleisdorf	Austria
77	SM SR17046	2	1	000	x	Freiherr von Moreau Saatzucht	Germany
78	SM SR16050	2	1	000	x	Freiherr von Moreau Saatzucht	Germany
79	Dongnong 54	1	2	0	2009	Northeast Agricultural University	China
80	Dongnong 58	1	2	0	2012	Northeast Agricultural University	China
81	Dongnong 50	1	2	0	2007	Northeast Agricultural University	China
82	Dongnong 52	1	2	0	2008	Northeast Agricultural University	China
83	Heihe 43	1	2	0	2007	Heihe Branch of Heilongjiang Agricultural Sci.	China
84	Dongnong 51	1	2	0	2007	Northeast Agricultural University	China
85	Heihe 45	1	1	00	2007	Heihe Branch of Heilongjiang Agricultural Sci.	China
86	Heihe 44	1	1	000	2007	Heihe Branch of Heilongjiang Agricultural Sci.	China
87	Dongnong 55	1	2	0	2009	Northeast Agricultural University	China
88	Dengke 5	1	1	00	2012	Hulun Buir Institution of Agricultural Sci.	China
89	Dengke 1	1	2	0	2009	Hulun Buir Institution of Agricultural Sci.	China
90	Heihe 52	1	2	0	2010	Heihe Branch of Heilongjiang Agricultural Sci.	China
91	Hefeng 51	1	3	I	2006	Jiamusi Branch of Heilongjiang Agricultural Sci.	China
92	Heihe 51	1	1	00	2009	Heihe Branch of Heilongjiang Agricultural Sci.	China
93	Heihe 36	1	2	0	2004	Heihe Branch of Heilongjiang Agricultural Sci.	China
94	Mengdou 30	1	2	0	2009	Hulun Buir Institution of Agricultural Sci.	China
95	Heinong 69	1	3	I	2012	Soybean Institute of Heilongjiang Agricultural Sci.	China
96	Heinong 64	1	3	I	2010	Soybean Institute of Heilongjiang Agricultural Sci.	China
97	Jiyu 95	1	4	III	2008	Institute of Soybean Research, Jilin Academy of Agricultural Sci.	China
98	Heinong 52	1	3	I	2007	Soybean Institute of Heilongjiang Agricultural Sci.	China
99	Heinong 68	1	3	I	2011	Soybean Institute of Heilongjiang Agricultural Sci.	China
100	Heinong 61	1	3	I	2010	Soybean Institute of Heilongjiang Agricultural Sci.	China
101	Keshan 1	1	2	0	2009	Keshan Branch of Heilongjiang Agricultural Sci.	China
102	Heinong 51	1	3	I	2007	Soybean Institute of Heilongjiang Agricultural Sci.	China
103	Heihe 49	1	1	000	2008	Heihe Branch of Heilongjiang Agricultural Sci.	China
104	Heihe 39	1	1	00	2006	Heihe Branch of Heilongjiang Agricultural Sci.	China
105	Hefeng 35	1	3	I	1994	Jiamusi Branch of Heilongjiang Agricultural Sci.	China
106	Hefeng 48	1	3	I	2005	Jiamusi Branch of Heilongjiang Agricultural Sci.	China
107	Henong 61	1	3	I	2010	Jiamusi Branch of Heilongjiang Agricultural Sci.	China
108	Suinong 24	1	2	0	2007	Suihua Branch of Heilongjiang Agricultural Sci.	China
109	Suinong 27	1	3	I	2008	Suihua Branch of Heilongjiang Agricultural Sci.	China
110	Suinong 22	1	4	II	2005	Suihua Branch of Heilongjiang Agricultural Sci.	China
111	Suinong 23	1	4	II	2006	Suihua Branch of Heilongjiang Agricultural Sci.	China
112	Suinong 26	1	4	II	2008	Suihua Branch of Heilongjiang Agricultural Sci.	China
113	Suinong 29	1	4	II	2009	Suihua Branch of Heilongjiang Agricultural Sci.	China
114	Suinong 32	1	4	II	2011	Suihua Branch of Heilongjiang Agricultural Sci.	China
115	Suinong 33	1	4	II	2012	Suihua Branch of Heilongjiang Agricultural Sci.	China
116	Suinong 34	1	4	II	2012	Suihua Branch of Heilongjiang Agricultural Sci.	China
117	Suinong 35	1	4	II	2012	Suihua Branch of Heilongjiang Agricultural Sci.	China
118	Henong 60	1	3	I	2010	Jiamusi Branch of Heilongjiang Agricultural Sci.	China
119	Hefeng 39	1	3	I	2000	Jiamusi Branch of Heilongjiang Agricultural Sci.	China
120	Henong 59	1	3	I	2010	Jiamusi Branch of Heilongjiang Agricultural Sci.	China
121	Hefeng 56	1	3	I	2009	Jiamusi Branch of Heilongjiang Agricultural Sci.	China
122	Hefeng 55	1	3	I	2008	Jiamusi Branch of Heilongjiang Agricultural Sci.	China
123	Hefeng 50	1	3	I	2006	Jiamusi Branch of Heilongjiang Agricultural Sci.	China
124	Henong 58	1	3	I	2010	Jiamusi Branch of Heilongjiang Agricultural Sci.	China
125	Henong 62	1	3	I	2011	Jiamusi Branch of Heilongjiang Agricultural Sci.	China
126	Hefeng 57	1	3	I	2009	Jiamusi Branch of Heilongjiang Agricultural Sci.	China
127	Kennong 36	1	3	I	2009	Kenfeng Seed	China
128	Kenbao 1	1	3	I	2013	Kenfeng Seed	China
129	Heinong 63	1	3	I	2010	Kenfeng Seed	China
130	Kenfeng 16	1	3	I	2006	Kenfeng Seed	China
131	Heihe 48	1	2	0	2007	Kenfeng Seed	China
132	Heinong 53	1	3	I	2007	Kenfeng Seed	China
133	Hefeng 53	1	3	I	2008	Jiamusi Branch of Heilongjiang Agricultural Sci.	China
134	Fengshou 22	1	3	I	1992	Keshan Branch of Heilongjiang Agricultural Sci.	China
135	Fengshou 25	1	2	0	2007	Keshan Branch of Heilongjiang Agricultural Sci.	China

136	Kenfeng 20	1	3	I	2008	Kenfeng Seed	China
137	Heihe 5	1	1	00	1986	Heihe Branch of Heilongjiang Agricultural Sci.	China
138	Beifeng 16	1	2	0	2002	Heilongjiang Land Reclamation Bureau Beian Institute of Agricultural Sci.	China
139	Kenfeng 17	1	3	I	2007	Kenfeng Seed	China
140	Beidou 30	1	2	0	2008	Heilongjiang Land Reclamation Bureau Hongxinglong Institute of Agricultural Sci.	China
141	Beidou 44	1	3	I	2012	Kenfeng Seed	China
142	Fengshou 27	1	2	0	2008	Keshan Branch of Heilongjiang Agricultural Sci.	China
143	Fengshou 26	1	2	0	2008	Keshan Branch of Heilongjiang Agricultural Sci.	China
144	Kedou 28	1	2	0	2012	Keshan Branch of Heilongjiang Agricultural Sci.	China
145	Huajiang 1	1	1	00	2005	Huajiang seed company of Beian	China
146	Beidou 40	1	3	I	2011	Kenfeng Seed	China
147	Fengshou 12	1	2	0	1971	Keshan Branch of Heilongjiang Agricultural Sci.	China
148	Hefeng 49	1	3	I	2005	Jiamusi Branch of Heilongjiang Agricultural Sci.	China
149	Hefeng 54	1	3	I	2008	Jiamusi Branch of Heilongjiang Agricultural Sci.	China
150	Suinong 7	1	3	I	x	Suihua Branch of Heilongjiang Agricultural Sci.	China
151	Fengshou 13	1	3	I	x	Keshan Branch of Heilongjiang Agricultural Sci.	China
152	Kenfeng 13	1	2	0	2005	Heilongjiang Academy of Land Reclamation Sci.	China
153	Beifeng 17	1	1	00	2004	Heilongjiang Land Reclamation Bureau Beian Institute of Agricultural Sci.	China
154	Beifeng 4	1	3	I	x	Heilongjiang Land Reclamation Bureau Beian Institute of Agricultural Sci.	China
155	Fengshou 11	1	2	0	x	Keshan Branch of Heilongjiang Agricultural Sci.	China
156	Heinong 22	1	3	I	x	Heilongjiang Agricultural Sci.	China

¹ Region code: 1=CN, 2= EU

² Experimental grouping: See Suppl. Table 2

³ Soybean maturity group

⁴ Year of cultivar release

Suppl. Table 2. Overview of the distribution of cultivars (number of cultivars) with respect to their origin and experimental grouping in terms of maturity group classification

Experimental grouping	Maturity group	Region of origin		total
		China	Europe	
1	MG 0000, 000, 00	9	31	40
2	MG 0	24	20	44
3	MG I	37	11	48
4	MG II, III	9	15	24
	total	79	77	156

Suppl. Table 3. SSR loci, their chromosomal location (Chr) and parameters of genetic diversity and informativeness. Number of analyzed individuals (N), number of alleles per locus (N_a), polymorphism information content (PIC), expected heterozygosity (H_e), observed heterozygosity (H_o), probability of identity-unrelated (PI), probability of identity related (PIsibs), Shannon's Information Index (I), Major Allele Frequency (MAF), Gene Diversity (GD)

Locus	Chr	N	N_a	PIC	H_e	H_o	PI	PIsibs	I	MAF	GD
Satt077	Gm01	156	3	0.42	0.52	0.10	0.33	0.57	0.81	0.58	0.52
Satt184	Gm01	129	4	0.32	0.37	0.02	0.44	0.67	0.66	0.76	0.37
Satt271	Gm02	156	3	0.47	0.53	0.11	0.28	0.55	0.91	0.63	0.53
Satt125	Gm03	156	7	0.62	0.68	0.07	0.16	0.45	1.31	0.44	0.68
Satt396	Gm04	156	2	0.36	0.47	0.10	0.39	0.61	0.66	0.63	0.47
Satt690	Gm04	156	5	0.52	0.59	0.06	0.23	0.51	1.03	0.55	0.59
Sat_217	Gm05	154	3	0.52	0.59	0.03	0.24	0.51	0.99	0.56	0.59
Satt684	Gm05	156	4	0.62	0.67	0.04	0.16	0.46	1.23	0.47	0.67
Satt281	Gm06	156	9	0.72	0.75	0.07	0.10	0.40	1.62	0.40	0.75
Satt308	Gm07	156	7	0.76	0.79	0.12	0.07	0.37	1.69	0.33	0.79
Satt590	Gm07	156	7	0.72	0.76	0.06	0.10	0.39	1.54	0.31	0.76
Sat_215	Gm08	155	7	0.79	0.81	0.03	0.06	0.36	1.76	0.25	0.81
Satt177	Gm08	155	4	0.48	0.57	0.10	0.27	0.53	0.97	0.54	0.57
Satt588	Gm09	156	6	0.63	0.69	0.04	0.16	0.44	1.27	0.36	0.69
Satt487	Gm10	156	7	0.78	0.81	0.08	0.06	0.36	1.77	0.29	0.81
Sat_331	Gm11	156	7	0.57	0.64	0.05	0.20	0.48	1.19	0.47	0.64
Satt279	Gm12	156	6	0.52	0.60	0.09	0.24	0.51	1.08	0.51	0.60
Satt586	Gm13	156	6	0.63	0.67	0.12	0.15	0.45	1.37	0.50	0.67
Satt656	Gm13	156	3	0.03	0.03	0.01	0.94	0.97	0.09	0.98	0.03
Sat_177	Gm14	156	7	0.78	0.81	0.08	0.06	0.36	1.75	0.29	0.81
Satt231	Gm15	156	4	0.40	0.43	0.07	0.36	0.63	0.84	0.74	0.43
Satt411	Gm15	156	4	0.33	0.37	0.06	0.43	0.67	0.70	0.78	0.37
Satt249	Gm16	155	4	0.63	0.68	0.11	0.16	0.45	1.24	0.43	0.68
Sat_333	Gm17	156	6	0.66	0.71	0.06	0.13	0.43	1.40	0.39	0.71
Satt256	Gm17	156	4	0.62	0.67	0.04	0.16	0.45	1.24	0.49	0.67
Sat_117	Gm18	156	4	0.54	0.60	0.04	0.22	0.50	1.06	0.55	0.60
Satt309	Gm18	156	3	0.56	0.63	0.09	0.21	0.49	1.05	0.48	0.63
Satt566	Gm18	156	4	0.39	0.44	0.03	0.37	0.62	0.78	0.72	0.44
Sct_187	Gm18	156	2	0.34	0.43	0.01	0.42	0.64	0.62	0.69	0.43
Satt232	Gm19	147	3	0.22	0.25	0.00	0.59	0.77	0.46	0.86	0.25
Sat_418	Gm20	156	9	0.82	0.84	0.11	0.04	0.34	1.98	0.27	0.84
Satt354	Gm20	155	4	0.68	0.73	0.08	0.13	0.42	1.34	0.33	0.73
SacK149	Gm09	156	2	0.36	0.48	0.11	0.39	0.61	0.67	0.61	0.48
Satt109	Gm10	156	8	0.68	0.72	0.03	0.12	0.42	1.53	0.43	0.72
Satt005	Gm02	156	9	0.47	0.56	0.07	0.28	0.54	1.03	0.55	0.56
Satt009	Gm03	127	7	0.62	0.69	0.07	0.16	0.45	1.30	0.37	0.69
Satt045	Gm15	155	8	0.53	0.56	0.06	0.22	0.53	1.20	0.64	0.56
Satt142	Gm12	156	6	0.42	0.48	0.03	0.33	0.59	0.87	0.67	0.48
Satt147	Gm01	156	3	0.52	0.60	0.08	0.24	0.51	0.98	0.50	0.60
Satt173	Gm10	156	7	0.76	0.79	0.12	0.07	0.37	1.69	0.27	0.79
Satt175	Gm07	156	5	0.52	0.55	0.12	0.24	0.54	1.11	0.64	0.55
Satt185	Gm15	131	8	0.48	0.51	0.06	0.27	0.56	1.12	0.69	0.51

Satt191	Gm18	156	3	0.37	0.46	0.08	0.38	0.62	0.72	0.67	0.46
Satt197	Gm11	156	5	0.44	0.48	0.06	0.31	0.59	0.94	0.69	0.48
Satt216	Gm02	156	5	0.43	0.47	0.05	0.32	0.59	0.91	0.70	0.47
Satt239	Gm20	156	7	0.74	0.77	0.08	0.09	0.38	1.61	0.32	0.77
Satt242	Gm09	155	6	0.64	0.69	0.10	0.15	0.44	1.32	0.41	0.69
Satt294	Gm04	156	4	0.35	0.38	0.02	0.42	0.66	0.73	0.77	0.38
Satt307	Gm06	156	7	0.53	0.56	0.09	0.23	0.53	1.18	0.64	0.56
Satt321	Gm01	156	3	0.47	0.55	0.06	0.28	0.55	0.91	0.58	0.55
Satt329	Gm08	156	7	0.65	0.68	0.10	0.13	0.44	1.46	0.51	0.68
Satt338	Gm04	156	5	0.66	0.71	0.03	0.13	0.43	1.39	0.41	0.71
Satt339	Gm03	156	6	0.65	0.70	0.08	0.14	0.43	1.39	0.43	0.70
Satt343	Gm13	156	8	0.79	0.82	0.10	0.06	0.36	1.83	0.25	0.82
Satt373	Gm19	156	10	0.77	0.79	0.09	0.07	0.37	1.82	0.34	0.79
Satt389	Gm17	156	6	0.61	0.67	0.12	0.17	0.46	1.23	0.38	0.67
Satt398	Gm19	156	7	0.74	0.77	0.04	0.09	0.38	1.60	0.32	0.77
Satt406	Gm16	156	10	0.70	0.74	0.10	0.11	0.41	1.49	0.34	0.74
Satt429	Gm08	156	6	0.66	0.71	0.03	0.14	0.43	1.37	0.40	0.71
Satt431	Gm16	156	6	0.44	0.50	0.02	0.31	0.58	0.91	0.64	0.50
Satt442	Gm12	156	5	0.50	0.54	0.04	0.25	0.54	1.04	0.64	0.54
Satt454	Gm05	156	3	0.42	0.48	0.06	0.33	0.59	0.83	0.68	0.48
Satt463	Gm07	154	6	0.75	0.78	0.06	0.08	0.38	1.64	0.36	0.78
Satt534	Gm14	156	11	0.68	0.72	0.08	0.12	0.42	1.60	0.41	0.72
Satt544	Gm09	156	7	0.63	0.66	0.09	0.15	0.46	1.41	0.54	0.66
Satt556	Gm14	156	4	0.62	0.67	0.11	0.16	0.45	1.25	0.48	0.67
Satt583	Gm11	155	10	0.71	0.75	0.08	0.10	0.40	1.60	0.39	0.75
E1	Gm06	156	3	0.40	0.45	0.01	0.35	0.61	0.79	0.71	0.45
E2	Gm10	156	2	0.14	0.15	0.00	0.73	0.86	0.29	0.92	0.15
E3	Gm19	156	6	0.50	0.59	0.04	0.25	0.52	1.03	0.50	0.59
E4	Gm20	156	3	0.16	0.18	0.00	0.69	0.83	0.35	0.90	0.18
Mean			5.5	0.55	0.60	0.07			1.16	0.52	0.60

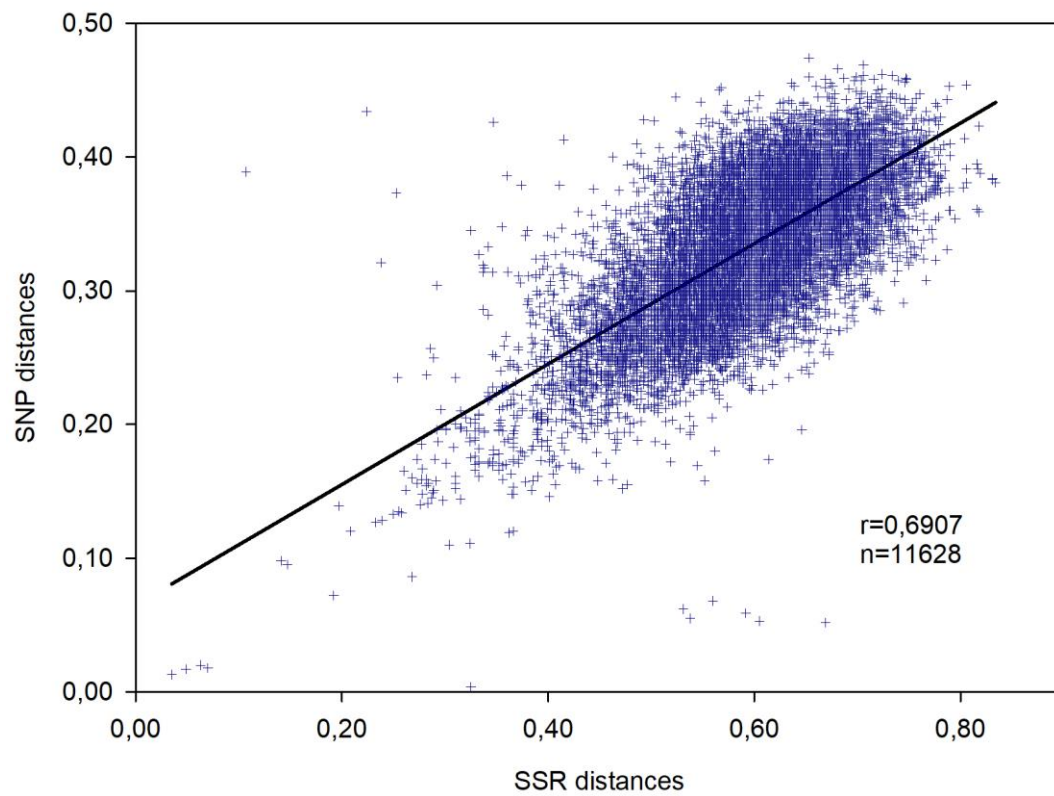
Suppl. Table 4. Difference between Chinese and European (CN – EU) populations in parameters of genetic diversity and informativeness for individual marker loci. Number of alleles per locus (N_a), polymorphism information content (PIC), expected heterozygosity (H_e), observed heterozygosity (H_o), probability of identity-unrelated (PI), probability of identity related (PIsibs), Shannon's Information Index (I), Major Allele Frequency (MAF), Gene Diversity (GD). Column-wise color-coding for highlighting CN-EU differences.

Locus	Chr	N_a	PIC	H_e	H_o	PI	PIsibs	I	MAF	GD
Satt077	Gm01	-1	-0,06	0,00	0,07	0,06	0,01	-0,15	-0,13	0,00
Satt184	Gm01	1	-0,08	-0,12	-0,01	0,12	0,09	-0,12	0,11	-0,12
Satt271	Gm02	0	0,22	0,24	0,11	-0,22	-0,18	0,38	-0,27	0,24
Satt125	Gm03	0	0,06	0,05	0,04	-0,04	-0,03	0,09	-0,05	0,05
Satt396	Gm04	0	0,03	0,05	0,05	-0,03	-0,03	0,05	-0,10	0,05
Satt690	Gm04	0	0,08	0,05	0,05	-0,07	-0,05	0,14	-0,02	0,05
Sat_217	Gm05	0	0,13	0,15	0,03	-0,11	-0,10	0,20	-0,22	0,15
Satt684	Gm05	0	-0,04	-0,03	-0,02	0,03	0,02	-0,11	0,00	-0,03
Satt281	Gm06	1	0,14	0,11	-0,02	-0,09	-0,09	0,39	-0,17	0,11
Satt308	Gm07	3	0,01	0,02	0,01	-0,01	0,00	0,12	-0,05	0,02
Satt590	Gm07	2	0,02	0,01	0,05	-0,01	-0,01	0,13	0,03	0,01
Sat_215	Gm08	0	0,04	0,04	0,05	-0,03	-0,02	0,06	-0,03	0,04
Satt177	Gm08	-1	0,06	0,09	0,01	-0,05	-0,06	0,07	-0,19	0,09
Satt588	Gm09	3	0,21	0,15	0,07	-0,18	-0,12	0,51	-0,11	0,15
Satt487	Gm10	0	-0,07	-0,07	0,04	0,04	0,05	-0,17	0,14	-0,07
Sat_331	Gm11	0	-0,07	-0,11	0,00	0,06	0,07	-0,05	0,12	-0,11
Satt279	Gm12	1	-0,12	-0,14	-0,02	0,11	0,10	-0,19	0,18	-0,14
Satt586	Gm13	0	-0,06	-0,09	0,05	0,04	0,06	-0,07	0,18	-0,09
Satt656	Gm13	0	0,01	0,01	0,01	-0,02	-0,01	0,02	-0,01	0,01
Sat_177	Gm14	1	0,08	0,07	-0,09	-0,05	-0,04	0,23	-0,05	0,07
Satt231	Gm15	0	0,08	0,09	0,08	-0,08	-0,07	0,13	-0,08	0,09
Satt411	Gm15	-1	-0,23	-0,25	-0,04	0,30	0,20	-0,49	0,18	-0,25
Satt249	Gm16	0	0,13	0,15	0,06	-0,11	-0,10	0,23	-0,16	0,15
Sat_333	Gm17	1	0,15	0,12	0,01	-0,10	-0,08	0,33	-0,20	0,12
Satt256	Gm17	2	0,29	0,24	0,01	-0,25	-0,18	0,61	-0,26	0,24
Sat_117	Gm18	-1	0,12	0,13	0,07	-0,10	-0,09	0,16	-0,21	0,13
Satt309	Gm18	0	0,09	0,07	0,08	-0,09	-0,06	0,17	-0,05	0,07
Satt566	Gm18	-1	-0,18	-0,27	-0,05	0,25	0,20	-0,35	0,29	-0,27
Sct_187	Gm18	0	0,06	0,09	0,03	-0,07	-0,06	0,10	-0,12	0,09
Satt232	Gm19	-1	-0,30	-0,36	0,00	0,52	0,31	-0,56	0,25	-0,36
Sat_418	Gm20	3	0,03	0,02	0,09	-0,02	-0,02	0,26	0,04	0,02
Satt354	Gm20	0	0,09	0,07	-0,03	-0,07	-0,06	0,19	-0,05	0,07
Sack149	Gm09	0	-0,06	-0,12	0,16	0,07	0,07	-0,12	0,21	-0,12
Satt109	Gm10	1	-0,03	-0,02	0,05	0,03	0,02	-0,02	-0,02	-0,02
Satt005	Gm02	1	-0,01	-0,03	-0,02	0,00	0,02	0,03	0,15	-0,03
Satt009	Gm03	-2	-0,05	-0,04	0,04	0,04	0,03	-0,22	0,02	-0,04
Satt045	Gm15	0	-0,19	-0,21	0,01	0,18	0,15	-0,38	0,21	-0,21
Satt142	Gm12	-1	-0,29	-0,35	0,00	0,34	0,25	-0,57	0,37	-0,35
Satt147	Gm01	0	-0,12	-0,10	-0,03	0,10	0,08	-0,20	0,09	-0,10
Satt173	Gm10	0	0,02	0,02	-0,03	-0,01	-0,01	0,02	-0,08	0,02
Satt175	Gm07	0	-0,29	-0,31	-0,01	0,28	0,23	-0,56	0,28	-0,31

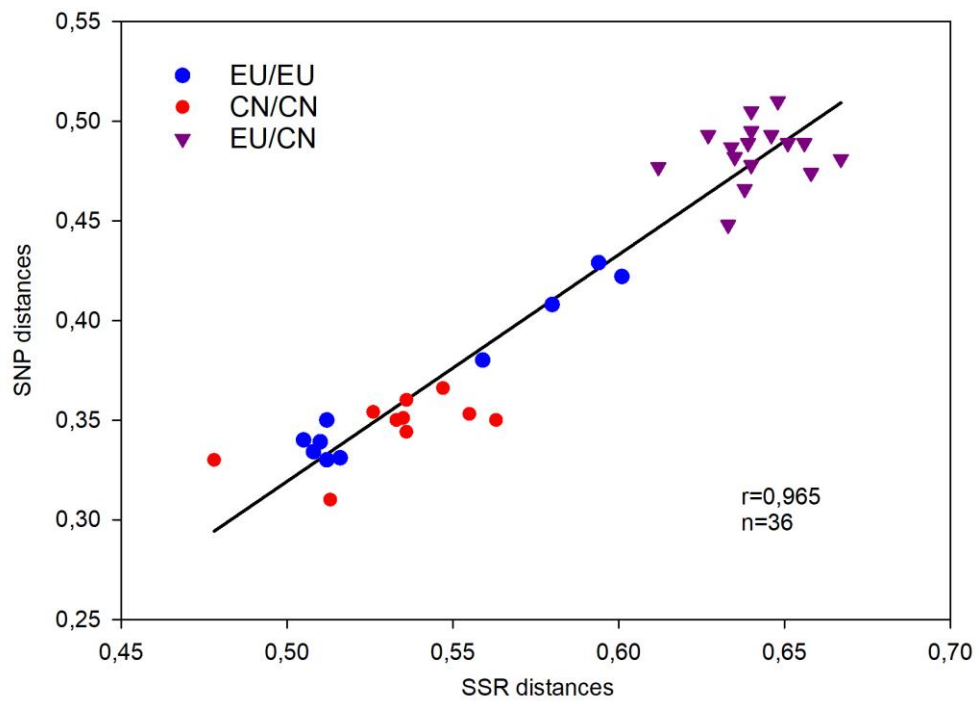
Satt185	Gm15	0	-0,34	-0,35	-0,04	0,35	0,26	-0,70	0,29	-0,35
Satt191	Gm18	0	0,11	0,22	0,10	-0,16	-0,15	0,18	-0,32	0,22
Satt197	Gm11	2	0,20	0,23	0,03	-0,21	-0,17	0,42	-0,21	0,23
Satt216	Gm02	1	-0,12	-0,19	0,00	0,15	0,14	-0,20	0,21	-0,19
Satt239	Gm20	1	-0,06	-0,07	0,05	0,04	0,04	-0,10	0,12	-0,07
Satt242	Gm09	1	0,12	0,11	0,05	-0,09	-0,08	0,32	-0,13	0,11
Satt294	Gm04	-2	-0,31	-0,37	-0,04	0,43	0,29	-0,64	0,28	-0,37
Satt307	Gm06	-1	-0,07	-0,05	0,05	0,07	0,04	-0,14	0,03	-0,05
Satt321	Gm01	0	-0,05	-0,06	0,05	0,05	0,04	-0,09	0,10	-0,06
Satt329	Gm08	3	0,27	0,26	0,10	-0,19	-0,18	0,73	-0,28	0,26
Satt338	Gm04	1	0,06	0,04	0,03	-0,05	-0,03	0,18	0,00	0,04
Satt339	Gm03	-1	-0,21	-0,21	0,01	0,17	0,14	-0,47	0,29	-0,21
Satt343	Gm13	0	0,05	0,05	0,11	-0,02	-0,03	0,13	-0,12	0,05
Satt373	Gm19	-2	-0,02	-0,01	-0,02	0,01	0,01	-0,20	-0,04	-0,01
Satt389	Gm17	1	0,02	0,00	0,03	-0,02	0,00	0,13	0,03	0,00
Satt398	Gm19	0	0,12	0,11	0,07	-0,09	-0,08	0,25	-0,14	0,11
Satt406	Gm16	2	0,13	0,11	0,08	-0,09	-0,08	0,32	-0,11	0,11
Satt429	Gm08	-1	0,03	0,05	0,06	-0,02	-0,03	-0,01	-0,12	0,05
Satt431	Gm16	-1	-0,04	-0,06	0,02	0,04	0,04	-0,09	0,09	-0,06
Satt442	Gm12	0	-0,23	-0,26	0,03	0,23	0,18	-0,44	0,26	-0,26
Satt454	Gm05	0	0,03	0,07	0,09	-0,03	-0,04	0,05	-0,10	0,07
Satt463	Gm07	0	-0,13	-0,11	-0,04	0,08	0,07	-0,35	0,20	-0,11
Satt534	Gm14	-4	0,13	0,15	0,07	-0,10	-0,10	0,16	-0,17	0,15
Satt544	Gm09	-1	-0,09	-0,09	0,00	0,07	0,06	-0,23	0,09	-0,09
Satt556	Gm14	0	-0,16	-0,17	0,04	0,13	0,12	-0,27	0,25	-0,17
Satt583	Gm11	-1	0,14	0,16	0,05	-0,11	-0,12	0,22	-0,21	0,16
E1	Gm06	1	0,07	0,09	0,01	-0,09	-0,07	0,15	-0,11	0,09
E2	Gm10	0	-0,16	-0,19	0,00	0,30	0,17	-0,29	0,11	-0,19
E3	Gm19	-2	0,01	-0,02	-0,03	-0,01	0,01	0,00	0,04	-0,02
E4	Gm20	1	-0,16	-0,19	0,00	0,28	0,17	-0,24	0,12	-0,19

Suppl. Table 5. Average genetic distance (based on SSR distances) within (in bold) and between groups of European and Chinese cultivars each in 4 experimental groupings with distances between regions in yellow background

	EU 1	EU 2	EU 3	EU 4	CN 1	CN 2	CN 3	CN 4
EU 1	0.559							
EU 2	0.580	0.512						
EU 3	0.601	0.516	0.505					
EU 4	0.594	0.510	0.508	0.512				
CN 1	0.633	0.638	0.667	0.658	0.513			
CN 2	0.640	0.635	0.656	0.651	0.536	0.536		
CN 3	0.646	0.627	0.648	0.640	0.555	0.547	0.533	
CN 4	0.639	0.612	0.640	0.634	0.563	0.535	0.526	0.478

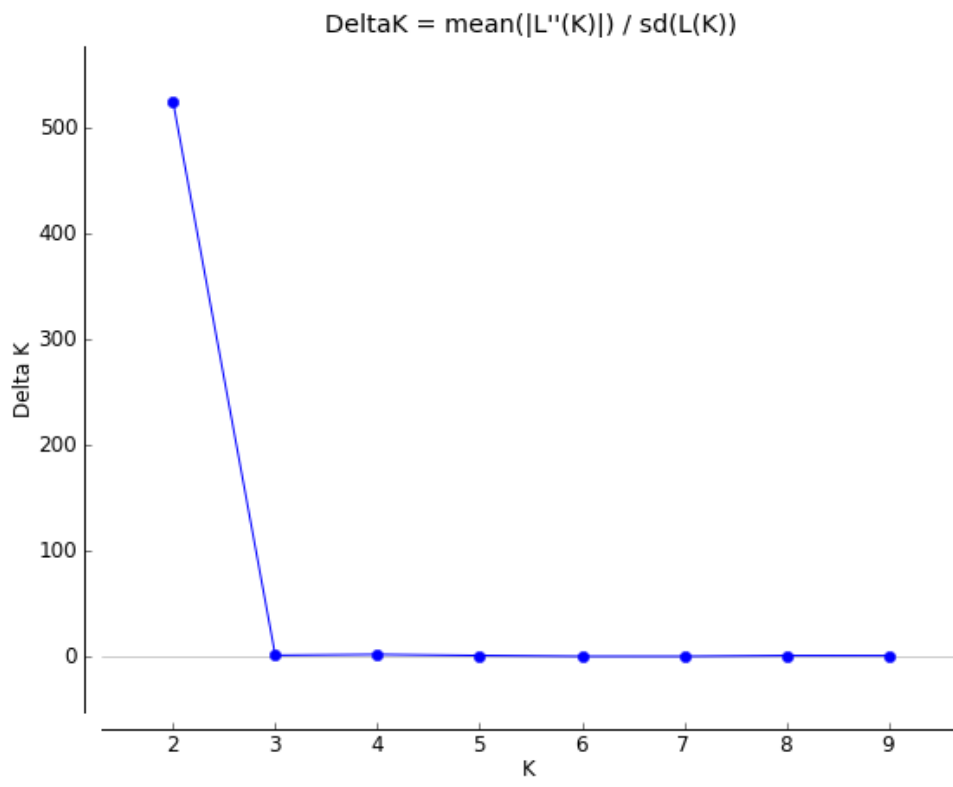


Suppl. Figure 1. Relationship between all pairwise genetic distances between 153 cultivars based either on SSR or SNP markers

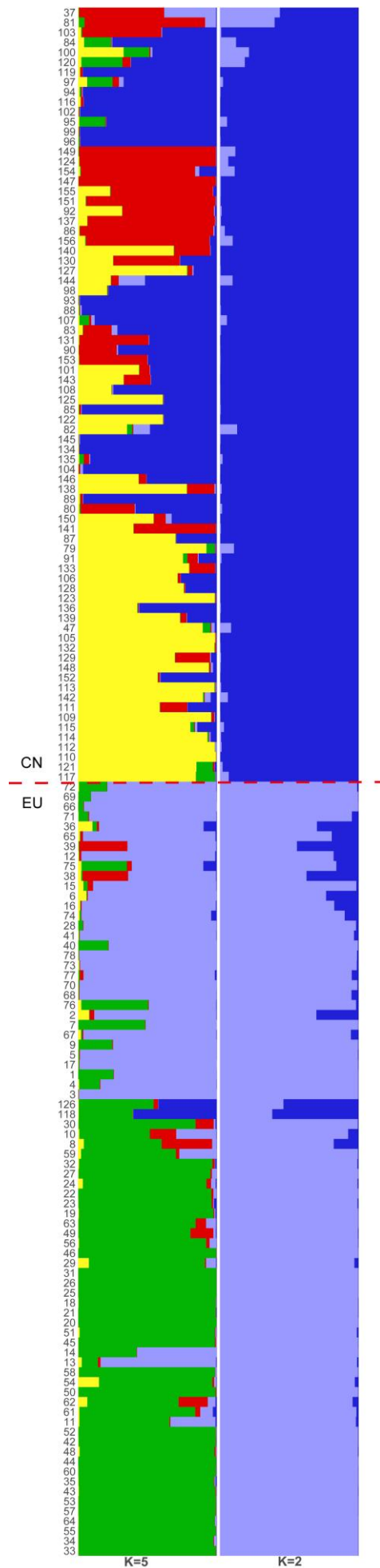


Suppl. Figure 2. Relationship between pairwise average genetic distances based on either SSR or SNP markers between and within 8 experimental groups

(A)



(B)



Suppl. Figure 3. Population genetic structure of 156 cultivars based on 71 SSR markers; (A) ΔK graph for K values of 2 to 9 revealing peak value at K = 2; (B) population structure at K = 5 (left) and K = 2 (right) indicating subpopulation membership for each cultivar.