Table S1 Spinach germplasm used in this study

No	Accession ID	Accession name	Germplasm bank	Origin
1	PI 179508	Cornell ID #75	USDA	Iraq
2	PI 181809	Cornell ID #46	USDA	Syria
3	PI 200882	Cornell ID #50	USDA	Afghanistan
4	PI 207518	Cornell ID #30	USDA	Afghanistan
5	PI 209647	No. 4	USDA	Iraq
6	PI 224959	Cornell ID #4	USDA	Iran
7	PI 226671	Cornell ID #10	USDA	Iran
8	PI 296393	Cornell ID #180	USDA	Iran
9	PI 445785	Baladi	USDA	Syria
10	PI 604787	SPI 108/79	USDA	Afghanistan
11	Ames 20169	Hu shi yuan ye bo cai	USDA	China
12	Ames 26244	II9A0245	USDA	China
13	PI 192945	CGN 9615	USDA	China
14	PI 217425	Cornell ID #9	USDA	South Korea
15	PI 286435	Cornell ID #179	USDA	Nepal
16	PI 419218	Cornell ID #164	USDA	Hong Kong
17	PI 433207	495	USDA	China
18	PI 433208	496	USDA	China
19	PI 604785	SPI 161/86	USDA	Mongolia
20	PI 608762	K-17068	USDA	Thailand
21	JP 25756	Tenjinmaru	NIAS	Kyoto, Japan
22	JP 25760	Shichigatsu-maki	NIAS	Kinki district, Japan
23	JP 25763	Yamagata-akane	NIAS	Yamagata, Japan
24	JP 25765	Houyou	NIAS	Chiba, Japan
25	JP 25767	Maze-zairai	NIAS	Ibaraki, Japan
26	JP 25769	Touko	NIAS	Nara, Japan
27	JP 25770	Diromaru	NIAS	Nara, Japan
28	JP 25774	Kawauchi	NIAS	Hiroshima, Japan
29	JP 25775	Nukushina	NIAS	Hiroshima, Japan

30	JP 25776	Ujo	NIAS	Hukuoka, Japan
31	NSL 6782	Hollandia	USDA	Netherlands
32	NSL 28218	Viking	USDA	Sweden
33	PI 167434	Cavallius	USDA	Belgium
34	PI 176372	Cornell ID #62	USDA	Italy
35	PI 261787	Monstrueux de Viroflay	USDA	France
36	PI 262911	Espinaca nobel	USDA	Spain
37	PI 266926	Universal	USDA	Germany
38	PI 285751	Koda	USDA	Poland
39	PI 361127	Noorman	USDA	UK
40	PI 531448	Eszkimo	USDA	Hungary
41	NSL 4683	Dixie market	USDA	Maryland, USA
42	NSL 6089	Bloomsdale dark green	USDA	Missouri, USA
43	NSL 6093	Viking giant nobel	USDA	Illinois, USA
44	NSL 6094	Virginia blight-resistan	USDA	Pennsylvania, USA
45	NSL 6098	Norfolk savoy/ bloomsdale	USDA	Virginia, USA
46	NSL 22149	Savoy supreme	USDA	California, USA
47	NSL 32629	Flanders	USDA	Louisiana, USA
48	NSL 32678	Long standing bloomsdale	USDA	New York, USA
49	NSL 92513	Bloomsdale long standing	USDA	Oregon, USA
50	NSL 184378	99 x 95 A christianson strain	USDA	Oregon, USA

Table S2 Summary of SSR data

Marker	*n*	N_A	*He*
SO3	250	4	0.486
SO4	250	13	0.810
SO7	250	6	0.696
SO10	250	5	0.532
SO29	250	5	0.531
SO48	250	6	0.632

n, number of individuals; N_A, number of alleles; *He*, gene diversity (expected heterozygosity)

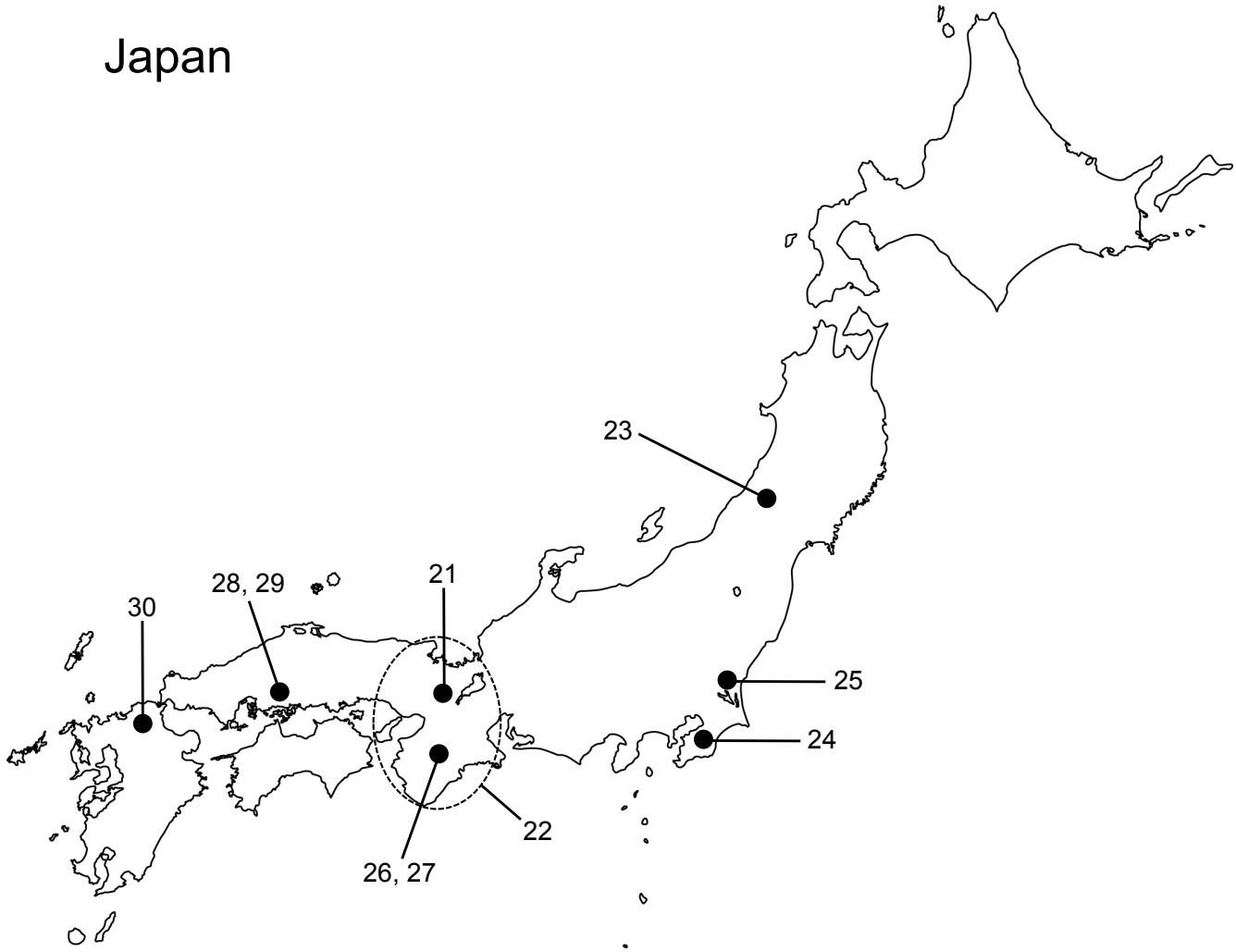

Fig. S1 Geographical locations of the origins of the Japanese germplasm accessions used in this study. The numbers, 21-30, represent the accessions listed in table 1

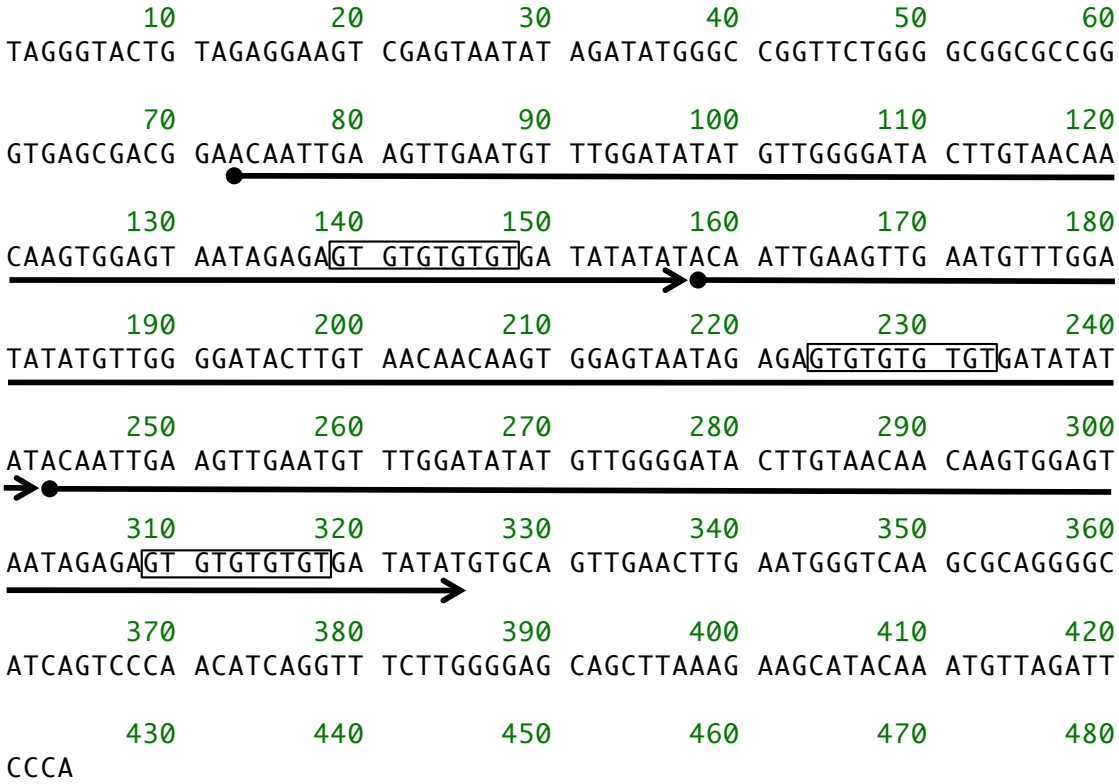

Fig. S2 The 85-bp tandem repeat sequence in SO29 locus.
Repeat motifs are underlined, with start and end points indicated by circles and arrows. Boxed sequences represent di-nucleotide microsatellites reported by Khattak et al. (2007)