

Supplemental Table 1.

List of tested cultivars, breeding lines, introduced cultivars and landraces in Japan

(A) Cultivars Name	Origine	Genotype <i>TaABA8'OH1-D</i>
Norin 1	Tohoku, Hokuriku	non-insertion
Norin 2	Tohoku, Hokuriku	non-insertion
Norin 3	Hokkaido	non-insertion
Norin 4	Kinki, Chugoku, Shikoku	non-insertion
Norin 5	Kyushu	non-insertion
Norin 6	Tohoku, Hokuriku	non-insertion
Norin 7	Kanto, Tokai	non-insertion
Norin 8	Hokkaido	non-insertion
Norin 9	Kanto, Tokai	non-insertion
Norin 10	Tohoku, Hokuriku	non-insertion
Norin 11	Kinki, Chugoku, Shikoku	insertion
Norin 12	Kanto, Tokai	non-insertion
Norin 13	Kanto, Tokai	non-insertion
Norin 14	Tohoku, Hokuriku	non-insertion
Norin 15	Tohoku, Hokuriku	non-insertion
Norin 16	Kanto, Tokai	non-insertion
Norin 17	Tohoku, Hokuriku	non-insertion
Norin 18	Tohoku, Hokuriku	non-insertion
Norin 19	Kinki, Chugoku, Shikoku	non-insertion
Norin 20	Kyushu	non-insertion
Norin 21	Kinki, Chugoku, Shikoku	non-insertion
Norin 22	Tohoku, Hokuriku	non-insertion
Norin 23	Kinki, Chugoku, Shikoku	non-insertion
Norin 24	Tohoku, Hokuriku	non-insertion
Norin 25	Kinki, Chugoku, Shikoku	non-insertion
Norin 26	Kinki, Chugoku, Shikoku	insertion
Norin 27	Tohoku, Hokuriku	non-insertion
Norin 28	Kanto, Tokai	non-insertion
Norin 29	Hokkaido	non-insertion
Norin 30	Kanto, Tokai	insertion
Norin 31	Tohoku, Hokuriku	non-insertion
Norin 32	Kinki, Chugoku, Shikoku	non-insertion
Norin 33	Tohoku, Hokuriku	non-insertion
Norin 34	Kyushu	non-insertion
Norin 35	Hokkaido	non-insertion
Norin 36	Kyushu	non-insertion
Norin 37	Kinki, Chugoku, Shikoku	non-insertion
Norin 38	Tohoku, Hokuriku	non-insertion
Norin 39	Tohoku, Hokuriku	non-insertion
Norin 40	Tohoku, Hokuriku	non-insertion
Norin 41	Kanto, Tokai	non-insertion
Norin 42	Kanto, Tokai	non-insertion
Norin 43	Kinki, Chugoku, Shikoku	insertion
Norin 44	Kanto, Tokai	non-insertion
Norin 45	Kyushu	non-insertion
Norin 46	Kinki, Chugoku, Shikoku	non-insertion
Norin 47	Kinki, Chugoku, Shikoku	non-insertion
Norin 48	Kanto, Tokai	non-insertion
Norin 49	Kyushu	insertion
Norin 50	Kanto, Tokai	insertion
Norin 51	Kinki, Chugoku, Shikoku	non-insertion
Norin 52	Kinki, Chugoku, Shikoku	non-insertion
Norin 53	Kanto, Tokai	insertion
Norin 54	Tohoku, Hokuriku	non-insertion

Norin 55		Tohoku, Hokuriku	non-insertion
Norin 56		Kinki, Chugoku, Shikoku	non-insertion
Norin 57		Kanto, Tokai	non-insertion
Norin 58		Tohoku, Hokuriku	non-insertion
Norin 59		Kinki, Chugoku, Shikoku	non-insertion
Norin 60		Kyushu	insertion
Norin 61		Kyushu	non-insertion
Norin 62		Hokkaido	non-insertion
Norin 63		Kinki, Chugoku, Shikoku	non-insertion
Norin 64		Kanto, Tokai	non-insertion
Norin 65		Kinki, Chugoku, Shikoku	non-insertion
Norin 66		Tohoku, Hokuriku	non-insertion
Norin 67		Kanto, Tokai	non-insertion
Norin 68		Kanto, Tokai	insertion
Norin 69		Kanto, Tokai	insertion
Norin 70		Kanto, Tokai	non-insertion
Norin 71		Kinki, Chugoku, Shikoku	non-insertion
Norin 72		Kinki, Chugoku, Shikoku	non-insertion
Norin 73		Kinki, Chugoku, Shikoku	non-insertion
Norin 74		Kinki, Chugoku, Shikoku	non-insertion
Norin 75		Hokkaido	non-insertion
Yuyakekomugi	(Norin 76)	Kanto, Tokai	insertion
Susonokomugi	(Norin 77)	Tohoku, Hokuriku	non-insertion
Mutsubenkei	(Norin 78)	Tohoku, Hokuriku	non-insertion
Iyokomugi	(Norin 79)	Kinki, Chugoku, Shikoku	insertion
Hatamasari	(Norin 80)	Kyushu	non-insertion
Aobakomugi	(Norin 81)	Tohoku, Hokuriku	non-insertion
Nanbukomugi	(Norin 82)	Tohoku, Hokuriku	non-insertion
Akatsukikomugi	(Norin 83)	Kinki, Chugoku, Shikoku	non-insertion
Yukichabo	(Norin 84)	Tohoku, Hokuriku	non-insertion
Hikarikomugi	(Norin 85)	Tohoku, Hokuriku	non-insertion
Myokokomugi	(Norin 86)	Tohoku, Hokuriku	non-insertion
Ebisukomugi	(Norin 87)	Kyushu	non-insertion
Hitsumikomugi	(Norin 88)	Tohoku, Hokuriku	non-insertion
Kokeshikomugi	(Norin 89)	Tohoku, Hokuriku	non-insertion
Okukomugi	(Norin 90)	Tohoku, Hokuriku	non-insertion
Sakyukomugi	(Norin 91)	Tohoku, Hokuriku	non-insertion
Yutakakomugi	(Norin 92)	Kyushu	non-insertion
Danchikomugi	(Norin 93)	Kyushu	insertion
Furutsumasari	(Norin 94)	Tohoku, Hokuriku	non-insertion
Shirasagikomugi	(Norin 95)	Kinki, Chugoku, Shikoku	insertion
Junreikomugi	(Norin 96)	Kinki, Chugoku, Shikoku	insertion
Kitakamikomugi	(Norin 97)	Tohoku, Hokuriku	non-insertion
Fujimikomugi	(Norin 98)	Kanto, Tokai	insertion
Hayatokomugi	(Norin 99)	Kyushu	non-insertion
Mikunikomugi	(Norin 100)	Kanto, Tokai	non-insertion
Shimofusakomugi	(Norin 101)	Tohoku, Hokuriku	non-insertion
Miyaginokomugi	(Norin 102)	Tohoku, Hokuriku	non-insertion
Nichirinkomugi	(Norin 103)	Kyushu	non-insertion
Haruhikari	(Norin 104)	Hokkaido	non-insertion
Ushiokomugi	(Norin 105)	Kinki, Chugoku, Shikoku	non-insertion
Omasekomugi	(Norin 106)	Kanto, Tokai	non-insertion
Hiyokukomugi	(Norin 107)	Kyushu	non-insertion
Mukakomugi	(Norin 108)	Hokkaido	non-insertion
Zenkoujikomugi	(Norin 109)	Kanto, Tokai	non-insertion
Kobushikomugi	(Norin 110)	Kanto, Tokai	non-insertion
Haruminori	(Norin 111)	Hokkaido	non-insertion
Sakigakekomugi	(Norin 112)	Kyushu	non-insertion
Hachimankomugi	(Norin 113)	Tohoku, Hokuriku	non-insertion

Horoshirikomugi	(Norin 114)	Hokkaido	non-insertion
Takunekomugi	(Norin 115)	Hokkaido	non-insertion
Hanagasakomugi	(Norin 116)	Tohoku, Hokuriku	non-insertion
Shiroganekomugi	(Norin 117)	Kyushu	non-insertion
Gogatsukomugi	(Norin 118)	Kyushu	non-insertion
Toyohokomugi	(Norin 119)	Kanto, Tokai	non-insertion
Setokomugi	(Norin 120)	Kyushu	insertion
Chikushikomugi	(Norin 121)	Kyushu	non-insertion
Shirowasekomugi	(Norin 122)	Kyushu	non-insertion
Asakazekomugi	(Norin 123)	Kyushu	insertion
Fukuhokomugi	(Norin 124)	Kanto, Tokai	non-insertion
Minaminokomugi	(Norin 125)	Kyushu	non-insertion
Chihokukomugi	(Norin 126)	Hokkaido	non-insertion
Wakamatsukomugi	(Norin 127)	Tohoku, Hokuriku	non-insertion
Fukuwasekomugi	(Norin 128)	Kinki, Chugoku, Shikoku	non-insertion
Nishikazekomugi	(Norin 129)	Kyushu	non-insertion
Haruyutaka	(Norin 130)	Hokkaido	non-insertion
Shiranekomugi	(Norin 131)	Kanto, Tokai	non-insertion
Airakomugi	(Norin 132)	Kanto, Tokai	non-insertion
Koyukikomugi	(Norin 133)	Tohoku, Hokuriku	non-insertion
Daichinominori	(Norin 134)	Kyushu	non-insertion
Bandouwase	(Norin 135)	Kanto, Tokai	non-insertion
Taisetsukomugi	(Norin 136)	Hokkaido	non-insertion
Akitakko	(Norin 137)	Tohoku, Hokuriku	non-insertion
Abukumawase	(Norin 138)	Kyushu	insertion
Harunoakebono	(Norin 139)	Hokkaido	non-insertion
Kinuiroha	(Norin 140)	Kyushu	non-insertion
Chikugoizumi	(Norin 141)	Kyushu	non-insertion
Hokushin	(Norin 142)	Hokkaido	non-insertion
Syunyou	(Norin 143)	Kanto, Tokai	insertion
Nishihonami	(Norin 144)	Kyushu	non-insertion
Iwainodaichi	(Norin 145)	Kyushu	non-insertion
Nishinokaori	(Norin 146)	Kyushu	insertion
Ayahikari	(Norin 147)	Kanto, Tokai	non-insertion
Kinuhime	(Norin 148)	Kanto, Tokai	insertion
Kitamoe	(Norin 149)	Hokkaido	non-insertion
Haruhinode	(Norin 150)	Hokkaido	non-insertion
Kinuazuma	(Norin 151)	Kanto, Tokai	non-insertion
Nebarigoshi	(Norin 152)	Tohoku, Hokuriku	non-insertion
Haruibuki	(Norin 153)	Tohoku, Hokuriku	non-insertion
Yumeseiki	(Norin 154)	Kanto, Tokai	non-insertion
Tamaizumi	(Norin 155)	Kanto, Tokai	insertion
Fukusayaka	(Norin 156)	Kinki, Chugoku, Shikoku	non-insertion
Yukichikara	(Norin 157)	Tohoku, Hokuriku	non-insertion
Kitanokaori	(Norin 158)	Hokkaido	non-insertion
Fuusetsu	(Norin 159)	Kanto, Tokai	non-insertion
Minaminokaori	(Norin 160)	Kyushu	non-insertion

(B) Breeding lines		Genotype
Name	Origine	<i>TaABA8'OH1-D</i>
Chugoku 53	Kinki, Chugoku, Shikoku	insertion
Chugoku 55	Kinki, Chugoku, Shikoku	non-insertion
Chugoku 81	Kinki, Chugoku, Shikoku	non-insertion
Chugoku 91	Kinki, Chugoku, Shikoku	insertion
Chugoku 98	Kinki, Chugoku, Shikoku	non-insertion
Chugoku 114	Kinki, Chugoku, Shikoku	insertion
Hokkai 195	Hokkaido	non-insertion
Hokkai 240	Hokkaido	non-insertion
Kankei w361	Kanto, Tokai	insertion
Kankei w364	Kanto, Tokai	insertion
Kanto 66	Kanto, Tokai	insertion
Kanto 79	Kanto, Tokai	non-insertion
Kanto 82	Kanto, Tokai	non-insertion
Kanto 87	Kanto, Tokai	insertion
Kanto 95	Kanto, Tokai	hetero
Kanto 99	Kanto, Tokai	non-insertion
Kanto 101	Kanto, Tokai	non-insertion
Kanto 107	Kanto, Tokai	non-insertion
Kitakanto 44	Kanto, Tokai	non-insertion
Kitakanto 48	Kanto, Tokai	non-insertion
Kitakei 8	Hokkaido	non-insertion
Kitakei 221	Hokkaido	non-insertion
Kitakei 320	Hokkaido	non-insertion
Kitakei 497	Hokkaido	non-insertion
Kitakei 1354	Hokkaido	non-insertion
Kitami 16	Hokkaido	non-insertion
Kitami 18	Hokkaido	non-insertion
Kitami 19	Hokkaido	non-insertion
Kitami 35	Hokkaido	non-insertion
Saikai 77	Kyushu	insertion
Saikai 87	Kyushu	non-insertion
Saikai 95	Kyushu	insertion
Saikai 98	Kyushu	non-insertion
Saikai 104	Kyushu	non-insertion
Saikai 113	Kyushu	non-insertion
Tanikei H2986	Kanto, Tokai	non-insertion
Tohoku 71	Tohoku, Hokuriku	non-insertion
Tohoku 101	Tohoku, Hokuriku	non-insertion
Tohoku 118	Tohoku, Hokuriku	non-insertion
Touzan 18	Kanto, Tokai	non-insertion
Touzan 38 (Yumeasahi)	Kanto, Tokai	non-insertion
Touzan 40 (Hanamanten)	Kanto, Tokai	non-insertion

(C) Japanese landraces		Genotype
Name	Origine	<i>TaABA8'OH1-D</i>
Akaboza	Kanto, Tokai	non-insertion
Akadaruma	Kanto, Tokai	non-insertion
Akakawaaka	Hokkaido	non-insertion
Akakomugi	Kanto, Tokai	non-insertion
Aki 9	Kyushu	non-insertion
Dawson 1	Hokkaido	non-insertion
Eshima	Kinki, Chugoku, Shikoku	non-insertion
Eshimashinriki	Kyushu	non-insertion
Fukuokakomugi 18	Kyushu	non-insertion
Furutsudaruma	Tohoku, Hokuriku	non-insertion
Hayakomugi	Kyushu	insertion
Hirakikomugi	Kinki, Chugoku, Shikoku	non-insertion
Hiroshimashipuree 3	Kinki, Chugoku, Shikoku	non-insertion
Igachikugo	Kyushu	non-insertion
Igachikugo Oregon	Kanto, Tokai	non-insertion
Saitama 27	Kanto, Tokai	non-insertion
Saitama 29	Kanto, Tokai	non-insertion
Sanin 1	Kinki, Chugoku, Shikoku	non-insertion
Shinchunaga	Kinki, Chugoku, Shikoku	insertion
Shinrikikomugi	Kinki, Chugoku, Shikoku	non-insertion
Shirochabo	Kanto, Tokai	non-insertion
Shiroboro 21	Kanto, Tokai	non-insertion
Shirodaruma	Kanto, Tokai	non-insertion
Shirokomugi	Kyushu	non-insertion
Shirosanjaku	Kanto, Tokai	non-insertion
Shisen 1	Tohoku, Hokuriku	non-insertion
Sojukuakage	Kyushu	non-insertion
Yushoki 347	Kinki, Chugoku, Shikoku	non-insertion

(D) Introduced cultivars		Genotype
Name	Origine	<i>TaABA8'OH1-D</i>
Alsen	USA	non-insertion
Ardito	Italy	non-insertion
Aroona	Australia	non-insertion
Arrino	Australia	non-insertion
AUS1408	Australia	non-insertion
Australia 8	Australia	non-insertion
Australia 13	Australia	non-insertion
Cadoux	Australia	non-insertion
California	USA	non-insertion
Chinese Spring	China	non-insertion
Combine	Italy	non-insertion
Corringin	Australia	non-insertion
Creopatra	Mexico	non-insertion
D6899	USA	non-insertion
Eradu	Australia	non-insertion
Geurmil	Korea	non-insertion
Hope	GB	non-insertion
IA7873	Mexico	non-insertion
Jagger	USA	non-insertion
Joshuu	China	non-insertion
Kanred	USA	non-insertion
KS831957	USA	non-insertion
Martin	USA	non-insertion
Nainari S60	Mexico	non-insertion
Noudai 16	China	non-insertion
Oregon	USA	non-insertion
Pampa INTA	Argentina	non-insertion
Parchall	USA	non-insertion
Reeder	USA	non-insertion
Rieti	Italy	non-insertion
Roblin	Canada	non-insertion
Rosella	Australia	non-insertion
Shikan	China	non-insertion
Suweon235	Korea	non-insertion
Tapdongmil	Korea	non-insertion
Timstein	USA	non-insertion
Tordo	Mexico	non-insertion
Turkey Red II	USA	non-insertion
U-11(Purcam)	USA	non-insertion
Wichita	USA	non-insertion
Tom Thumb	USA	non-insertion