

Table S1. Detailed information of the 259 melon varieties

Code	Variety name	origin		Variety name	origin
DW1	qia dong ke hong	BVRC	TG59	mi feng yi hao	BVRC
DW10	Ames 29551	BVRC	TG6	xiang rui yi hao	BVRC
DW11	NSL 5648	BVRC	TG60	yu lu yi hao	BVRC
DW12	NSL 34600	BVRC	TG61	xiang rui 301	BVRC
DW13	NSL 60241	BVRC	TG62	jin fei	BVRC
DW14	PI 116489	BVRC	TG63	zhong yun 20	BVRC
DW15	PI 123188	BVRC	TG64	zhong tian 5hao	BVRC
DW16	PI 125865	BVRC	TG65	rui xue 8hao	BVRC
DW17	PI 177347	BVRC	TG66	feng tian 7hao	BVRC
DW18	PI 315410	BVRC	TG67	feng wei 4hao	BVRC
DW19	PI 378169	BVRC	TG68	re gua dan zi	BVRC
DW2	wang wen tian gua	BVRC	TG69	feng wei 5hao	BVRC
DW20	PI 446928	BVRC	TG7	jin yu	BVRC
DW22	PI 618848	BVRC	TG70	xue li hong	BVRC
DW23	PI 532841	BVRC	TG71	mo xiang yu	BVRC
DW24	jin tai lang	BVRC	TG72	bai yu man tang	BVRC
DW26	tu leng gou jin gua	BVRC	TG73	tian xiang yu	BVRC
DW27	jiang su san ye gua	BVRC	TG74	jin cheng	BVRC
DW28	jing zhou ba fang	BVRC	TG75	yin lu yi hao	BVRC
DW29	xiang xi huang jin gua	BVRC	TG76	yu ru yi	BVRC
DW3	PI-164569	BVRC	TG77	qing su	BVRC
DW30	cui cai gua	BVRC	TG78	jiang huai mi 7hao	BVRC
DW31	bai sha mi	BVRC	TG79	xi zhou mi 25hao	BVRC
DW32	kan gua	BVRC	TG8	yi li sha bai	BVRC
DW33	yang jiao mi	BVRC	TG80	zhong tian cui xue	BVRC
DW34	xiao hua dao	BVRC	TG81	zhong tian cui bao	BVRC
DW35	shi tiao xian	BVRC	TG82	bai yu man tang	BVRC
DW36	qing dan zi	BVRC	TG83	dong fang hua cui	BVRC
DW37	wu leng yang su gua	BVRC	TG84	hua cui	BVRC
DW38	liu jin gua	BVRC	TG85	chuang yan cui cui tian	BVRC
DW39	bai li gua	BVRC	TG86	ri ben tian bao	BVRC
DW4	Hxle's Bese	BVRC	TG87	M16002	BVRC
DW40	ge mosu -5	BVRC	TG88	dong zhi xing	BVRC
DW5	lu tian dong hao	BVRC	TG89	hong yu cui	BVRC
DW6	Ames 26809	BVRC	TG9	hong lv zao cui	BVRC
DW7	Ames 26810	BVRC	TG90	yu hong	BVRC
DW8	Ames 13271	BVRC	TG91	dong fang cui mi	BVRC
DW9	Ames 29539	BVRC	TG92	dong fang mi 1hao	BVRC
TG1	xin hong xin cui	BVRC	TG93	feng mi 29	BVRC
TG10	dong tian gua 5hao	BVRC	TG94	xi zhou mi 25hao	BVRC
TG100	jing yu 280	BVRC	TG96	cui xue 5hao	BVRC
TG102	jiao ao	BVRC	TG97	xiang shan xue mi	BVRC

TG103	jing yu 2008	BVRC	TG98	yi li sha bai	BVRC
TG104	jing yu yang jiao su	BVRC	TG99	jing yu 417	BVRC
TG105	jing yu 10	BVRC	X65	rui xue 8hao	BVRC
TG106	jing yu san hao	BVRC	Z1	CA2 VGK 456	BVRC
TG107	jing yu yue liang	BVRC	Z100	xiao bai su	BVRC
TG108	jing yu lv bao	BVRC	Z101	xue gua tian	BVRC
TG109	jing yu xiang shuai	BVRC	Z102	ha mo gua	BVRC
TG11	shi ji mi	BVRC	Z103	hong deng long	BVRC
TG110	jing yu mo bao	BVRC	Z105	bai mi tong	BVRC
TG111	jing yu bai liu xing	BVRC	Z106	guang zhou mi gua	BVRC
TG112	jing yu huang liu xing	BVRC	Z107	bin hai tian gua	BVRC
TG113	jing yu 5	BVRC	Z108	XXXXXX	BVRC
TG114	jing yu si hao	BVRC	Z109	qia dong ke kou qi	BVRC
TG115	jing yu 2hao	BVRC	Z12	JUMBO HALES BEST	BVRC
TG116	yu mei ren	BVRC	Z121	jin huang	BVRC
TG117	yi li sha bai	BVRC	Z122	78-31	BVRC
TG118	tian guan san hao	BVRC	Z123	xiao qing chong	BVRC
TG119	jing yu mi 28	BVRC	Z124	xin yu (JADE)	BVRC
TG12	huang guan	BVRC	Z125	hei pi mian tian gua	BVRC
TG120	tian guan yi hao	BVRC	Z126	tai yang	BVRC
TG121	tian mi mi	BVRC	Z127	yu lu	BVRC
TG122	yi li sha bai	BVRC	Z129	qiu xiang	BVRC
TG123	jing mi 8hao	BVRC	Z13	PLANTERS JUMBO	BVRC
TG124	jing mi 10hao	BVRC	Z130	AMARILLO GIALLO	BVRC
TG125	zao shu yi chun	BVRC	Z131	SICILIANO	BVRC
TG126	jiu jiu hong	BVRC	Z132	cantalooopo #227hao	BVRC
TG127	jing mi 7hao	BVRC	Z133	chongam	BVRC
TG128	jing mi 15hao	BVRC	Z135	bai xiang gua	BVRC
TG129	yi te jin	BVRC	Z136	hua pi tian gua	BVRC
TG13	zhu guan	BVRC	Z137	xiang gua	BVRC
TG130	yi te bai	BVRC	Z138	Horeydew	BVRC
TG131	yang jiao cui	BVRC	Z139	Horey louge	BVRC
TG132	mi cui xiang yuan	BVRC	Z14	CANTALOUPE TOPMARK	BVRC
TG133	jing mi 11hao	BVRC	Z141	long tian yi hao	BVRC
TG134	chun peng 5hao	BVRC	Z146	yang jiao mi	BVRC
TG135	zhong mi 198	BVRC	Z147	huang mian gua	BVRC
TG136	IV92	BVRC	Z150	ge mo su	BVRC
TG137	jing xuan yang jiao mi	BVRC	Z151	qing ding	BVRC
TG138	IV17	BVRC	Z152	hui shu zi	BVRC
TG139	chi zi niu	BVRC	Z153	ba li xiang 2	BVRC
TG14	xue tian yi hao	BVRC	Z154	huang tian gua	BVRC
TG15	feng tian yi hao	BVRC	Z16	tian gua	BVRC
TG16	xi bo luo tuo	BVRC	Z17	CV. HONEYOEW	BVRC
TG17	jin lu san hao	BVRC	Z18	MELONHIB MELCHOR	BVRC

TG18	jiu hong rui	BVRC	Z19	MELONHIB CARTAGD	BVRC
TG19	jiu qing mi	BVRC	Z24	MUSK MELON	BVRC
TG2	jin long	BVRC	Z25	T-96	BVRC
TG20	RX-14-3	BVRC	Z26	tian gua	BVRC
TG21	xiang rui yi hao	BVRC	Z29	HWANGGUM	BVRC
TG22	yu lu yi hao	BVRC	Z3	AMARELO	BVRC
TG23	Xin cheng xiang	BVRC	Z30	CHONGGANY	BVRC
TG24	xin shi ji	BVRC	Z32	GUSTO 45 MSL620	BVRC
TG25	yin lu yi hao	BVRC	Z34	TOP MARK VGG 2663	BVRC
TG26	feng tian qi hao	BVRC	Z35	PERLITA VGR 771	BVRC
TG27	huang jing yu	BVRC	Z47	chang lan shi 1	BVRC
TG28	hong jia	BVRC	Z48	chang lan shi 2	BVRC
TG29	yi li sha bai	BVRC	Z49	yi li sha bai	BVRC
TG3	xue li hong	BVRC	Z5	CUCUMIS MELO L.	BVRC
TG30	ba su 317	BVRC	Z50	Galaoui	BVRC
TG31	jing tian 208	BVRC	Z51	ANANAS TLYBRID	BVRC
TG32	xiang hua	BVRC	Z53	ALIENOR	BVRC
TG34	jin mi long	BVRC	Z54	OGEN	BVRC
TG35	Yong tian 5hao	BVRC	Z55	サカタエ-クンメロン	BVRC
TG36	dong fang mi 1hao	BVRC	Z57	IAIDIAPAN	BVRC
TG37	cui tian 1hao	BVRC	Z60	bai dao	BVRC
TG38	xin hui	BVRC	Z67	OBTENTION TEZIER	BVRC
TG39	jiang huai mi san hao	BVRC	Z68	gao nong huang wei tian gua	BVRC
TG4	huang pi 9818	BVRC	Z70	CA4 VXR 6072	BVRC
TG40	hong you	BVRC	Z71	hua tian gua	BVRC
TG41	zhong tian 5hao	BVRC	Z73	hong cheng wan	BVRC
TG42	bai yun	BVRC	Z76	bai sha mi	BVRC
TG43	gan su bai lan gua	BVRC	Z81	huang dao	BVRC
TG44	hong su shou 1401	BVRC	Z82	fu yu	BVRC
TG45	hong su shou 1402	BVRC	Z84	RONDA (MY251)	BVRC
TG46	yan yang	BVRC	Z85	KAVVN	BVRC
TG47	ci cui 2hao	BVRC	Z86	KAVONTOHOMV	BVRC
TG48	jiang huai mi liu hao	BVRC	Z87	tian diao ya	BVRC
TG49	Yongtian 7hao	BVRC	Z9	ニユ-メロン	BVRC
TG5	RX-99	BVRC	Z91	MEL04	BVRC
TG50	Yongyue 1hao	BVRC	Z92	qing su gua	BVRC
TG51	ci xi cai gua	BVRC	Z93	NO 45-SJ VGL379	BVRC
TG52	Yong tian 8hao	BVRC	Z94	HONEY DEW VGR 768	BVRC
TG53	xiao bai gua	BVRC	Z95	AMCO SWEET VGL 5041	BVRC
TG54	zhong tian 7hao	BVRC	Z96	JUMBO HALE'S BEST 97849	BVRC
TG55	zhong tian 2hao	BVRC	Z97	FERRY-MORSE SEEDS	BVRC
TG56	zhong tian 8hao	BVRC	Z98	HALE' BEST JUMBO	BVRC
TG57	jiang huai mi dong hao	BVRC	Z99	MUSKMELON 6593-8	BVRC
TG58	jiang huai mi yi hao	BVRC			BVRC

Table S2. Summary of the 149 collection of melon accessions.

Individual code	Botanical variety	Name	Varietas	Categories	Origin
MS-105	<i>ssp. agrestis</i>	Yunnanbai	makuwa	Landrace	China
MS-143	<i>ssp. agrestis</i>	Jiangxiligua	chinensis	Landrace	China
MS-159	<i>ssp. agrestis</i>	Daoxiangcun	makuwa	Landrace	China
MS-170	<i>ssp. agrestis</i>	Hongchengcui	makuwa	Landrace	China
MS-18	<i>ssp. agrestis</i>	Jindaozi	makuwa	Landrace	China
MS-208	<i>ssp. agrestis</i>	Shushugua	chinensis	Landrace	China
MS-226	<i>ssp. agrestis</i>	Qingyangtou	makuwa	Landrace	China
MS-280	<i>ssp. agrestis</i>	Tiandiaoya	makuwa	Landrace	China
MS-301	<i>ssp. agrestis</i>	Niujiaomi	chinensis	Cultivar	China
MS-307	<i>ssp. agrestis</i>	Fengxuan-1	makuwa	Landrace	China
MS-665	<i>ssp. agrestis</i>	Tianliwang	makuwa	Cultivar	Japan
MS-669	<i>ssp. agrestis</i>	Mitangcheng	makuwa	Cultivar	Japan
MS-78	<i>ssp. agrestis</i>	Jingtian208	makuwa	Cultivar	China
MS-962	<i>ssp. agrestis</i>	Baisugua	conomon	Landrace	China
MS-109	<i>ssp. agrestis</i>	Huangxianggua	makuwa	Landrace	China
MS-190	<i>ssp. agrestis</i>	Shandonghuanggua	makuwa	Landrace	China
MS-192	<i>ssp. agrestis</i>	Damiangua	makuwa	Landrace	China
MS-198	<i>ssp. agrestis</i>	Shilenghuangjingua	makuwa	Landrace	China
MS-213	<i>ssp. agrestis</i>	Shengkaihua	makuwa	Landrace	China
MS-274	<i>ssp. agrestis</i>	Huangpicao	chinensis	Landrace	China
MS-40	<i>ssp. agrestis</i>	Hongzihuangmigua	makuwa	Landrace	China
MS-526	<i>ssp. agrestis</i>	Baimeiren	makuwa	Cultivar	China
MS-945	<i>ssp. agrestis</i>	Zhuchengtiancuigua	conomon	Landrace	China
MS-115	<i>ssp. agrestis</i>	Qinghamasu	makuwa	Landrace	China
MS-133	<i>ssp. agrestis</i>	Yadanqing	makuwa	Landrace	China
MS-139	<i>ssp. agrestis</i>	Sanyehuasugua	conomon	Landrace	China
MS-15	<i>ssp. agrestis</i>	Huaxianzi	chinensis	Landrace	China
MS-16	<i>ssp. agrestis</i>	Qingpicui	makuwa	Landrace	China
MS-196	<i>ssp. agrestis</i>	Wenxibaigua	makuwa	Landrace	China
MS-211	<i>ssp. agrestis</i>	Shidaojin-1	makuwa	Landrace	China
MS-217	<i>ssp. agrestis</i>	Huxiantiangua	chinensis	Landrace	China
MS-240	<i>ssp. agrestis</i>	Xitian No.1	makuwa	Cultivar	China
MS-294	<i>ssp. agrestis</i>	Tianshuai	chinensis	Cultivar	China
MS-299	<i>ssp. agrestis</i>	ShanxiA	makuwa	Landrace	China
MS-422	<i>ssp. agrestis</i>	Huanghou	makuwa	Landrace	China
MS-534	<i>ssp. agrestis</i>	ZQK 1	chinensis	Landrace	China
MS-54	<i>ssp. agrestis</i>	Huangjinzhui	makuwa	Landrace	China
MS-63	<i>ssp. agrestis</i>	Tedalvyurang	conomon	Landrace	China
MS-637	<i>ssp. agrestis</i>	Jinbao	chinensis	Cultivar	Japan
MS-639	<i>ssp. agrestis</i>	Kurumeke No.6	makuwa	Cultivar	Japan
MS-71	<i>ssp. agrestis</i>	Heimiangua	makuwa	Landrace	China

MS-87	<i>ssp. agrestis</i>	Lamahuang	makuwa	Landrace	China
MS-939	<i>ssp. agrestis</i>	Dajingua	conomon	Landrace	China
MS-947	<i>ssp. agrestis</i>	pingyuancuigua	conomon	Landrace	China
MS-950	<i>ssp. agrestis</i>	Qinggenbaigua	conomon	Landrace	China
MS-952	<i>ssp. agrestis</i>	Changdubaigua	conomon	Landrace	China
MS-961	<i>ssp. agrestis</i>	Baipicaigua	conomon	Landrace	China
MS-972	<i>ssp. agrestis</i>	Yeersanxiaocaigua	chinensis	Landrace	China
MS-996	<i>ssp. agrestis</i>	Tinglinxuegua	chinensis	Cultivar	China
MS-1001	<i>ssp. agrestis</i>	Tiebaqing	makuwa	Cultivar	China
MS-1002	<i>ssp. agrestis</i>	Huangjingua	makuwa	Cultivar	Japan
MS-1020	<i>ssp. agrestis</i>	Baizhuogua	makuwa	Landrace	China
MS-1021	<i>ssp. agrestis</i>	Bingtangzi	makuwa	Landrace	China
MS-1047	<i>ssp. agrestis</i>	Sanuki Shirouri	conomon	Cultivar	Japan
MS-1109	<i>ssp. agrestis</i>	Hsd 201	tibish		Sudan
MS-1147	<i>ssp. agrestis</i>	Tibish djebel kordofan 4	tibish		Sudan
MS-1148	<i>ssp. agrestis</i>	Tibish khurtagat 15	tibish		Sudan
MS-396	<i>ssp. melo</i>	Hetiansairekekouqi		Landrace	China
MS-479	<i>ssp. melo</i>	Yixuan-1	ameri	Landrace	China
MS-538	<i>ssp. melo</i>	20KH.111	flexuosus	Landrace	Afghanistan
MS-580	<i>ssp. melo</i>	PI 136191	Indicus		Canada
MS-666	<i>ssp. melo</i>	Xindongyang	ibericus	Cultivar	Japan
MS-730	<i>ssp. melo</i>	Kuscular Kavunu	chandalak	Landrace	Turkey
MS-770	<i>ssp. melo</i>	Muskataly	cantalupen sis	Cultivar	Hungary
MS-771	<i>ssp. melo</i>	Ezuseanan S2	cantalupen sis	Cultivar	Hungary
MS-828	<i>ssp. melo</i>		inodorus		India
MS-976	<i>ssp. melo</i>	Wuhaicaigua	flexuosus	Landrace	China
MS-223	<i>ssp. melo</i>	Baisitebai	ameri	Landrace	China
MS-247	<i>ssp. melo</i>	Huixing	ibericus	Landrace	China
MS-432	<i>ssp. melo</i>	Moli	ameri	Landrace	China
MS-439	<i>ssp. melo</i>	Waibazimijigan	ameri	Landrace	China
MS-547	<i>ssp. melo</i>	Epritel-1	ameri	Cultivar	Belgium
MS-555	<i>ssp. melo</i>	Valley pac	cantalupen sis	Cultivar	France
MS-662	<i>ssp. melo</i>	バテ	inodorus	Cultivar	Japan
MS-732	<i>ssp. melo</i>	PI 171599	ameri	Landrace	Turkey
MS-745	<i>ssp. melo</i>	Kirkagac		Landrace	Turkey
MS-830	<i>ssp. melo</i>	PI 179894	cassaba	Landrace	India
MS-863	<i>ssp. melo</i>	British Queen	inodorus	Cultivar	England
MS-188	<i>ssp. melo</i>	Yidu-2	ameri	Landrace	China
MS-312	<i>ssp. melo</i>	Tashikehong	chandalak	Landrace	China
MS-331	<i>ssp. melo</i>	Bayixiangli	ameri	Landrace	China

MS-373	<i>ssp. melo</i>	Hongroukekouqi	ameri	Landrace	China
MS-386	<i>ssp. melo</i>	Kuiketuola	ameri	Landrace	China
MS-417	<i>ssp. melo</i>	Kalakesai	inodorus	Landrace	China
MS-418	<i>ssp. melo</i>	Lihua	ameri	Landrace	China
MS-454	<i>ssp. melo</i>	Bawuxieke	inodorus	Landrace	China
MS-477	<i>ssp. melo</i>	Mo95	cassaba	Landrace	China
MS-505	<i>ssp. melo</i>	Fenghuangxuan-2	inodorus	Landrace	China
MS-529	<i>ssp. melo</i>	Zaoxiangmi	chandalak	Landrace	China
MS-570	<i>ssp. melo</i>	PI 136215	cantalupen sis		Canada
MS-581	<i>ssp. melo</i>	PI 136195	cantalupen sis	Cultivar	Canada
MS-604	<i>ssp. melo</i>	Gritian clueen	cantalupen sis	Cultivar	United States
MS-630	<i>ssp. melo</i>	Riwen	cantalupen sis	Cultivar	Japan
MS-651	<i>ssp. melo</i>	Wuming		Cultivar	Japan
MS-678	<i>ssp. melo</i>	Mestnaja	cantalupen sis		Former Soviet Union
MS-731	<i>ssp. melo</i>	Hasanbey	ameri	Landrace	Turkey
MS-762	<i>ssp. melo</i>	Sakor-polak 554	ameri	Cultivar	Uzbekistan
MS-769	<i>ssp. melo</i>	Homak Rines	ameri	Cultivar	Hungary
MS-787	<i>ssp. melo</i>	PI 140682	ameri	Landrace	Iran
MS-790	<i>ssp. melo</i>	PI 140637	ameri	Landrace	Iran
MS-806	<i>ssp. melo</i>	Kharbuza	inodorus	Landrace	India
MS-811	<i>ssp. melo</i>	PI 401731	chandalak	Cultivar	India
MS-831	<i>ssp. melo</i>	PI 165515	ameri	Landrace	India
MS-833	<i>ssp. melo</i>	PI 164749	indicus	Landrace	India
MS-836	<i>ssp. melo</i>	PI 166190		Landrace	India
MS-855	<i>ssp. melo</i>	PI 165508		Landrace	India
MS-857	<i>ssp. melo</i>	PI 164395	ameri	Landrace	India
MS-864	<i>ssp. melo</i>	Ripeiliyaer	cantalupen sis	Cultivar	
MS-992	<i>ssp. melo</i>	Pil de sapo	inodorus	Cultivar	Spain
MS-1003	<i>ssp. melo</i>	Khlar-i-Chamber	flexuosus	Landrace	Afghanistan
MS-1005	<i>ssp. melo</i>	Im-2	reticulatus	Cultivar	Italy
MS-1017	<i>ssp. melo</i>	PI 446929	cantalupen sis	Landrace	Israel
MS-1022	<i>ssp. melo</i>	Im41 Pinorenetpieldesapo	ibericus	Cultivar	Italy
MS-1100	<i>ssp. melo</i>	Dolmalik 2	chate		Turkey
MS-901	<i>C. africanus</i> L.	PI 179894			South Africa
MS-995	<i>C. metulifeus</i> L.	R13			
MS-926	<i>ssp. agrestis</i>	USM 386	agrestis	Wild	India

MS-904	<i>ssp. agrestis</i>	KLM-1733	agrestis	Wild	Maldives
MS-909	<i>ssp. agrestis</i>	USM 014	agrestis	Wild	India
MS-927	<i>ssp. agrestis</i>	USM 388	agrestis	Wild	India
MS-928	<i>ssp. agrestis</i>	KSM 476	agrestis	Wild	India
MS-1011	<i>ssp. agrestis</i>	GOU GUA	agrestis	Wild	China
MS-1013	<i>ssp. agrestis</i>	USM 013	agrestis	Wild	India
MS-929	<i>ssp. agrestis</i>	KSM 523	agrestis	Landrace	India
MS-930	<i>ssp. agrestis</i>	KSM 544	agrestis	Landrace	India
MS-932	<i>ssp. agrestis</i>	KSM 619	agrestis	Landrace	India
MS-1008	<i>ssp. agrestis</i>	Chapera Ki Kacheri	agrestis	Landrace	India
MS-1014	<i>ssp. agrestis</i>	USM 170	agrestis	Landrace	India
MS-1015	<i>ssp. agrestis</i>	USM 172	agrestis	Landrace	India
MS-1120	<i>ssp. agrestis</i>	Korhogo	kachri	Wild	Cote d'Ivoire
MS-1121	<i>ssp. agrestis</i>	Kubri	agrestis	Wild	Burkina faso
MS-1145	<i>ssp. agrestis</i>	Tayer 1	agrestis	Wild	Cameroun
MS-1036	<i>ssp. agrestis</i>	ZM/A 5350	kachri	Landrace	Zambia
MS-1048	<i>ssp. agrestis</i>	TGR 96		Cultivated material	Zimbabwe
MS-1060	<i>ssp. melo</i>	PI 282448		Wild	South Africa
MS-815	<i>ssp. agrestis</i>	Cu 68-02		Landrace	India
MS-801	<i>ssp. agrestis</i>	PI 136223	momordica		Canada
MS-832	<i>ssp. agrestis</i>	Mm-6		Landrace	India
MS-809	<i>ssp. agrestis</i>	Mm-8	momordica	Landrace	India
MS-823	<i>ssp. agrestis</i>	Velleri		Landrace	India
MS-841	<i>ssp. agrestis</i>	9087	momordica	Landrace	India
MS-842	<i>ssp. agrestis</i>	9092	dudaim	Landrace	India
MS-1018	<i>ssp. agrestis</i>	MR-1	momordica		United States
MS-1019	<i>ssp. agrestis</i>	PI 124111-2	momordica		India
MS-985	<i>ssp. agrestis</i>	CM-17-187	momordica	Landrace	Israel
MS-1081	<i>ssp. agrestis</i>	PI 200814		Landrace	Burma

Table S3. Pairwise differentiation F_{st} among four subpopulations.

F_{st}	pop1A	pop1B	pop1C	pop2
pop1A		0.23	0.23	0.52
pop1B	0.23		0.30	0.47
pop1C	0.23	0.30		0.52
pop2	0.52	0.47	0.52	

Table S4. Primers sequence of core set of 23 SSR markers for melon varieties identification

SSR ID	Primer_F	Primer_R
MeSSr137	TCTCTTGTTGATCGAAACCCTAGAA	TCGTGAACCAGAATGCTCAATAAAC
MeSSr004	GCTAACAAACACCCAAACACTCTTT	TTAATGTCCTGGGAAAAGAGCTTTTT
MeZqSSr9	TGTCTTGGGTTTATTCTCTTCTTCAC	ACATTTGGGTTGTTTAGGTTCTATCT
MeSSr016	AACCTTGAGAGAGAAATGGAATGGT	TCTATCCCCTCTACCATTCTGTCT
MeZqSSr2	AGCAGATAGACCCTGTTTGACATTA	ATTTCTTTCCCTCATCCTACATTCC
MeSSr020	GGTGAGTTGAGCTAATCCATTGTTT	ATCCAATTGCACGTCATTGACTATC
MeSSr025	AGAGAAGAAAAATGTCGGGATCTGA	GAATTTATGTTGAACCCATGAGGCA
MeSSr030	AGACAATGAAGAAGAAGAAGAAGA	CAATTTTAGTGTCAATTGAATCTCCAATC
MeSSr122	AATCTCCGTGGCCATACTAAATACA	TTTTTCGATTGTTTCCTTCTCCTC
MeSSr119	GATTGAAGGAGCTGGAATTATGCTC	TCCACTCGATACTTCTGATTCTTCT
MeSSr047	GGTTCTTTGTTTCGAAGATAGTGCA	GTCTGTCAAATCTCTTCCGTTTTCT
MeSSr058	TCAATGTGAGATCAACACCATCATC	GCAAAGACAGTGCCTTTTCATATGA
MeZQSSr1	CTCTCTCAATATGTTGCAATTGGT	AAATGGTTGGATTTGTAGAGTGCAG
Me-CMBR002	TGCAAATATTGTGAAGGCGA	AATCCCCACTTGTTGGTTTG
Me-MU9175	TCCCTCTCAGATTCTGATGAG	CGACTGTGTCTTGTGGAGGA
Me-CM26	GAGAAACCAGCAGTAGAAGAACAAG	TCAACAGATTTCCCTCATTTCTCCT
Me-CMBR052	CAATCAAACATGAACCCACATCAGA	ATTTCAGCATTGTTTTGCCTTCTCT
MeSSr074	CTCCGTTTTGGTTTTTCGGTTTAAAG	CCAAGGCCTAAACCATGTTTCATAT
MeSSr136	CTTTTGCCGTTTGGATCACATAGAA	AAACACAATCCTACACTACACACCT
MeZqSSr10	GACCGATTAATTGCGGGAGTATTTT	ACCTGCATTGACAACAAAATGAAG
MeSSr099	CGCTTGATGATTAACTATGTTCAACA	TATTGATCGCCATGAAAATGAAGCA
MeZqSSr11	TTCTCTCTCTCTCTCTCGTTTCTCT	AGTAGAGACGGAGAATTTCTGATCG
MeSSr069	CTGTCTGCTATTCTCCACTTGG	TGTATGCCACGTAGCGAAAC

Table S5. Primer sequence of core set of 40 SNP for melon variety identification

SNP_ID	primer_X	primer_Y	primer_C
TGSNP-1835	ATCTGATTCTTTTCTTGAAACCCC	ATATCTGATTCTTTTCTTGAAACCCA	CCAAAACACACACACTATTAGCATAAAATATC
TGSNP-0002	GATCTGGAAATGCTGGAATCACG	GATCTGGAAATGCTGGAATCACC	TTTGGTTATCATATGTTTTATATTTTCCAGAATGA
TGSNP-2598	AATAACTAAATCTTTAGGTCGCATCGAT	TAACTAAATCTTTAGGTCGCATCGAC	GATGGTGGTCTTGATATTTAACCGCTG
TGSNP-0004	TTAGTTTTCGTAAAATAATTTCCAATAATTTCTTAA	TTAGTTTTCGTAAAATAATTTCCAATAATTTCTTAT	CCCAACCTTAAAAAGGTTGAAAAATGGAC
TGSNP-0005	CAATCCTTATAGACTTAATTGCCGG	CCAATCCTTATAGACTTAATTGCCGA	TTACCCTTTAATTCAAAAGAGCTCAAAAATATTG
TGSNP-0011	GTTCAATTGGCAAATAAAATAAATAAGGATG	TTAGTTCAATTGGCAAATAAAATAAATAAGGATA	TGTACACACCTAGTCAAATTTTACTATATTTATG
TGSNP-0012	ACGTCAATGACCTAAGCATGTCC	CACGTCAATGACCTAAGCATGTCT	CATACAAATAACATATGTTCTCCTTGTCCTC
TGSNP-0013	ATCTAAACCACCAATATCTGAATGGG	AAATCTAAACCACCAATATCTGAATGGT	ATTTGTTATAAACCCCTACCGCATATAAAATATTG
TGSNP-0014	CATCTCTGAATTTGACATATGGGACAA	ATCTCTGAATTTGACATATGGGACAG	CACAACATCTACTGAGGTCATATCATAAC
TGSNP-0018	GCATTGTTGTGCATTCTTGATCT	GCATTGTTGTGCATTCTTGATCA	GAAGCTCAACAACCTTTCCCTAAC
TGSNP-0020	GTTTGTTTTGCTTGAGATCAACGCC	AGTTTGTTTTGCTTGAGATCAACGCT	TGTATTTGGACCATCTTATAAGAGAATTCAC
TGSNP-0022	CGACAAGAAACCAAGATTTCCGCTA	GACAAGAAACCAAGATTTCCGCTG	AACGAAATCAAGGATGGATTCTCAATTTAAG
TGSNP-0188	TCGATTGAGTTAAAGAATTGGGATTGATA	GATTGAGTTAAAGAATTGGGATTGATG	CAATATTGGATCAAAAGTAACTATCTAAAGAAC
TGSNP-0190	G TTCAGGAGGCTAACCTCGAAAT	TTCAGGAGGCTAACCTCGAAAC	CGTCCCCCGCTGCTCCATTC
TGSNP-0192	AACAATTGCAGCAGGCCAACTAG	GAACAATTGCAGCAGGCCAACTAA	CGTGACTGTGAATTTGAATTTCCAGTTTAG
TGSNP-0210	TGTTTTATCACGTGAACATGAAACGG	TTGTTTTATCACGTGAACATGAAACGA	TTAAAGACATCCAGGATTATGAAAATACAATAAAAT
TGSNP-0314	TATCCACCCGGTCTTACCCTG	TTATCCACCCGGTCTTACCCTA	CATTATCGTTGGTTCAATATGCCTCCC
TGSNP-0351	AGCTAAACAAATCTCCATTAATCGCC	CAGCTAAACAAATCTCCATTAATCGCT	CCTGTTGGACTGTCATAGGTTTGTAAG
TGSNP-0353	TTTAAGAGAGAAATTCCTAAATCAAACG	ATTTAAGAGAGAAATTCCTAAATCAAACA	CAGCAGCAGAAGAAGAAGAAGAAG
TGSNP-1832	AAGGCAACCATCTTCCCAATCG	CAAGGCAACCATCTTCCCAATCA	CTTTACAATGATCACACCAGAAGAATAAAATG
TGSNP-1837	CCAAATTTTGCTCGCCGACA	CCAAATTTTGCTCGCCGACT	ATTGAGATGCGGAAAGAAAAATCCCAG
TGSNP-1848	TCTCCTTACGTCAGTTTTCTTTCTG	CTCTCCTTACGTCAGTTTTCTTTCTT	GCCAACTGTTACAGCTTAGAGTCTAG
TGSNP-1851	CTTCTTTTCGTTACGCTCTTCG	CTTCTTTTCGTTACGCTCTTCC	GCTAGACGATCGGAGATGGTGG
TGSNP-2574	TCAAAGTCTGGAAGGGAAGTCGT	CAAAGTCTGGAAGGGAAGTCGC	AATACCTTTCTAAATGGTGACATGGAAAAAG

TGSNP-2575	CTTATACCTGCGACAACAATAAACTTG	CTTATACCTGCGACAACAATAAACTTT	TACCACCATGAATGTATAAAAAATTGTATATCAAG
TGSNP-2579	GCACAAGGTAAACAAGCGTAGGATT	CACAAGGTAAACAAGCGTAGGATC	AATGAAATAAGCATAAAAAAGGTGTGTAATGAAC
TGSNP-2581	CAACCTCAACCTAATCCACTAAGTTT	AACCTCAACCTAATCCACTAAGTTC	TTAATAAAATCTCAACACCTAACATTTCCTAAC
TGSNP-2585	GATTTCATGTGGGTAGGATGTGAG	GGATTTCATGTGGGTAGGATGTGAA	CGTTTCACATATAAGTTCAGCCATTAACAC
TGSNP-2588	CAGTATCCTATCTAGTGCAAACACTT	AGTATCCTATCTAGTGCAAACACTC	CATGAACCATTCCATTGGCTCAAATTC
TGSNP-2590	GTTAAATATGCTGAGTTCGGAAGG	AGTTAAATATGCTGAGTTCGGAAGT	CTCTCTCTCAAGGAAGAGTGCAGAAA
TGSNP-2591	GGTTCCTGTCTTATATATGCCGTTG	TGGTTCCTGTCTTATATATGCCGTTA	CATGCAAGATTAGTAGTCAATACAATGTTAAG
TGSNP-2595	GATGATCTTGTGAATGATTTGAATTTGTC	TTGATGATCTTGTGAATGATTTGAATTTGTT	ACTGTTGGTATGTATCTACTAATATGTTATATTG
TGSNP-2606	TTCACCAAGAATCCCTAATCATTCTG	TTCACCAAGAATCCCTAATCATTCTC	CAGTAATTCATCTAAATGCGAAGTAATGAAAC
TGSNP-2608	AATGCTATTTTAGCAACCCATAGAACA	AATGCTATTTTAGCAACCCATAGAACT	AGTTGTTCAACAAGTTGATAACATAGAGAAG
TGSNP-2609	CTTGATCCATGAATAATCTTCTTGAGC	CTTGATCCATGAATAATCTTCTTGAGG	GAAGGCAAGTGAGAGAAACACAATTAAAC
TGSNP-2611	GCGCCTATCTTCATCATGCCGA	GCGCCTATCTTCATCATGCCGG	GCGTCACACATGAGTTCAAATGGTTG
TGSNP-2612	CTGGTAAAATGCAAGATAGCCACAG	TCTGGTAAAATGCAAGATAGCCACAA	TTGAGGATAAAAACTGATGTATATAATTTTAGGC
TGSNP-2616	GATTTTCTCTCAACTCATCAGCCG	TTGATTTTCTCTCAACTCATCAGCCA	GAGCCTTAAGGAAATGATGCTAGAAATGA
TGSNP-2618	CCTGGCCTTTCTTATATCTGATGAG	TCCTGGCCTTTCTTATATCTGATGAA	ATACTACACTGATAATTGTTTGATCTCTTTTAC
TGSNP-2619	GTTAGAACAAAACACAACACATAAAAGATC	AGTTAGAACAAAACACAACACATAAAAGATA	GCAATTGCAATTGGAATAAAGGTGAGTAAG

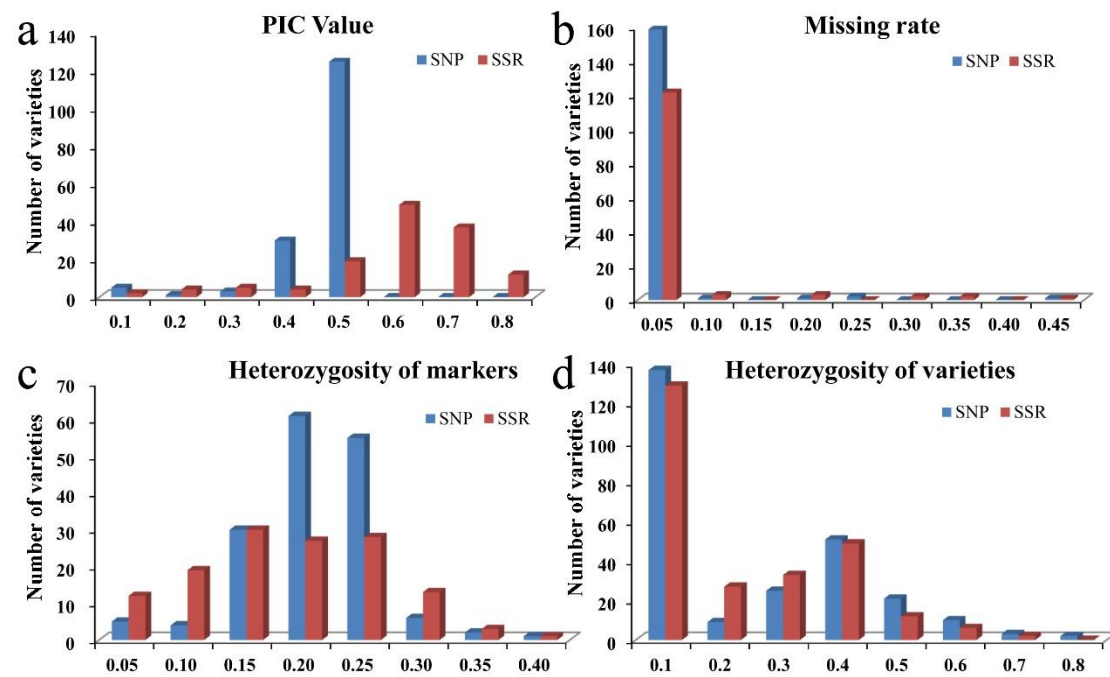


Figure S1. Statistics of SSR and SNP genetic variation in 259 melon varieties. (a) Polymorphism information content (PIC) value. (b) Missing rate of genotypes. (c) Heterozygosity of markers. (d) Heterozygosity of varieties.

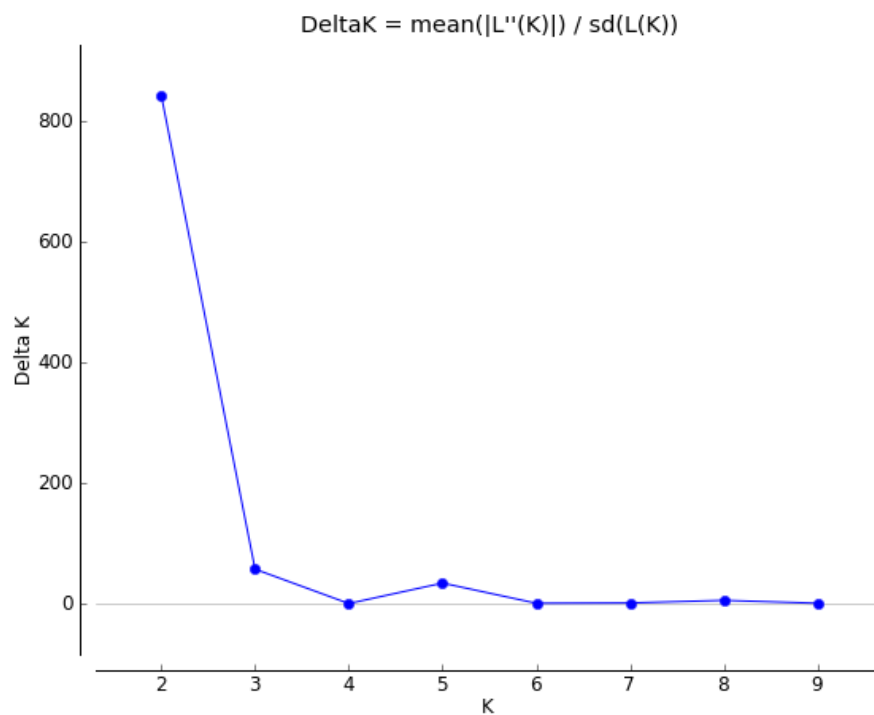


Figure S2. The plot of ΔK parameter from K = 1 to K = 10.

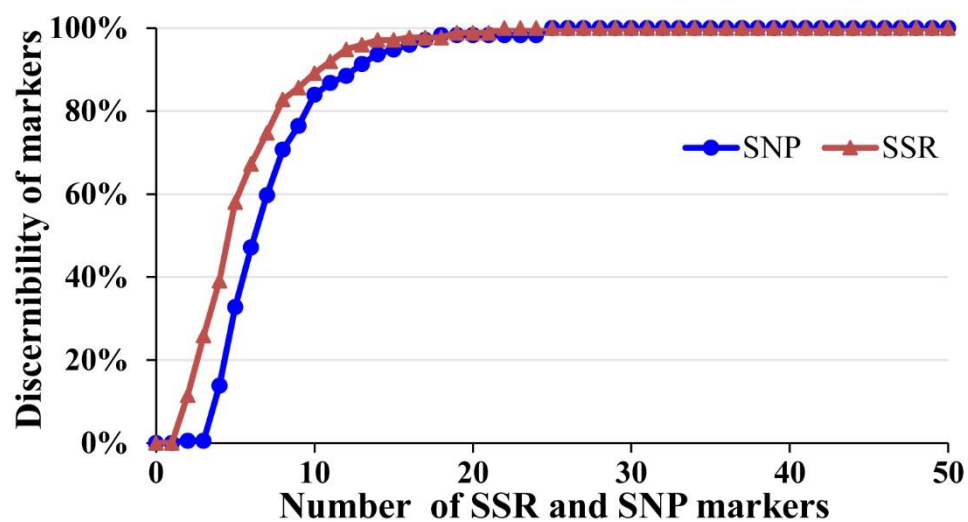


Figure S3. The saturation curve of 129 SSRs and 159 SNPs in 259 melon varieties distinguishment. A core set of 23 SSRs and 40 SNPs were selected for identifying melon varieties.



Figure S4. PCR result of 23 core SSRs showed by the capillary electrophoresis.

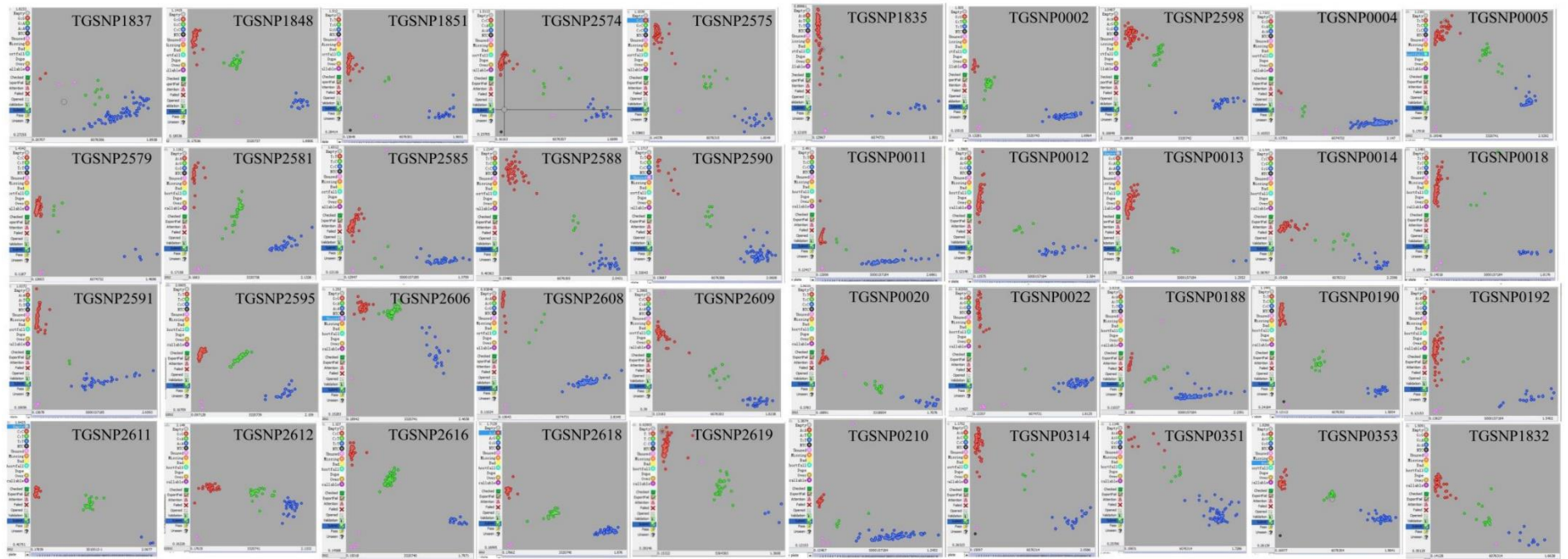


Figure S5. Genotyping data cluster of 40 core SNP in KASP platform.

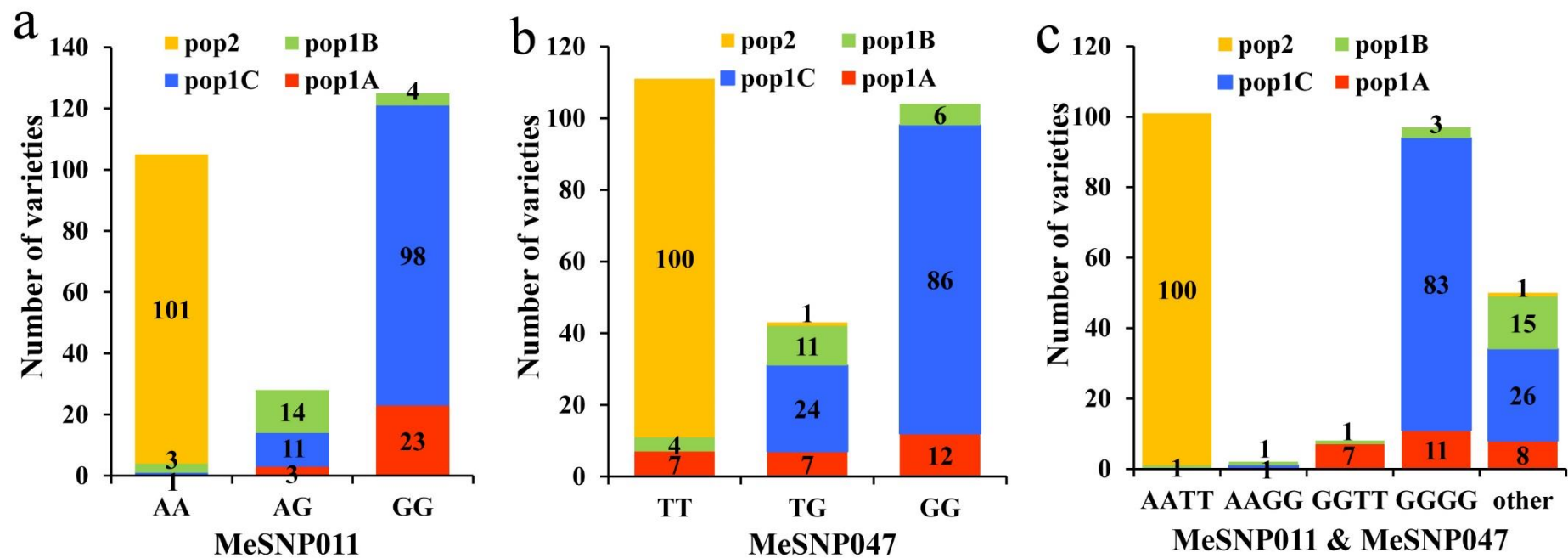


Figure S6. Number of varieties in different subgroups genotyping by MeSNP011(a), MeSNP047(b) and combination with these two markers (c).