

Supplementary Table 1. Morphological traits of 154 watermelon accessions.

No.	Origin	Degree of lobing	Marbling	Pubescence	Time of female flowering	Ground color of testa	Shape of apical part	Ground color of skin	Intensity of ground color of skin	Degree of grooving	Stripes	Main color of flesh	Shape of apical part	Prediction of genetic inbreeding
K192024	ZAF	medium	absent or weak	medium	medium	cream	broad elliptic	green	light to medium	on whole fruit	present	pinkish red	rounded	mix
K192026	ZWE	medium	absent or weak	medium	medium	black	circular	green	very light to light	absent or weak	mix	yellow	rounded	mix
K192028	Unknown	strong	absent or weak	medium	medium	black	circular	green	very light to light	absent or weak	present	red	rounded	Inbred
K192030	Unknown				late	red-brown	broad elliptic	green	very light to light	absent or weak	present	white	rounded	mix
K192049	Unknown	medium	absent or weak	medium	medium	black	broad elliptic	green	medium	absent or weak	absent or weak	white	rounded	mix
K192051	Unknown	strong	absent or weak	medium	medium	cream	circular	green	very light to light	absent or weak	absent or weak	yellow	rounded	mix
K192117	Unknown				medium	black	circular	green	very light to light	absent or weak	present	orange	rounded	Inbred
K192127	IND	strong	absent or weak	late	red-brown	red-brown	circular	green	dark	on whole fruit	absent or weak	white	rounded	mix
K192204	ZAF	strong	strong	strong	medium	black	broad elliptic	green	very light	absent or weak	present	pinkish red	rounded	mix
K192243	IND	medium	absent or weak	week	medium	cream	circular	green	very light to light	at basal half	present	yellow	rounded	mix
K192245	IND	medium	absent or weak	medium	medium	cream	circular	green	medium	mix	present	yellow	rounded	mix
K192282	TUR				medium	brown	circular	green	medium	at basal half	present	yellow	rounded	Segregation
K192368	TUR	medium	absent or weak	week	medium	black	circular	green	medium to dark	absent or weak	absent or weak	yellow	rounded	F1
K192376	TUR	medium	absent or weak	medium	medium	cream	circular	green	dark	absent or weak	absent or weak	white	rounded	Inbred
K192383	IND	medium	absent or weak	medium	medium	black	circular	green	mix	absent or weak	present	yellow	rounded	mix
K192388	TUR	medium	absent or weak	week	medium	black	circular	green	mix	absent or weak	mix	white	rounded	Segregation
K192391	TUR	medium	absent or weak	medium	medium	black	circular	green	dark	absent or weak	absent or weak	yellow	rounded	mix
K192392	TUR	medium	absent or weak	week	medium	cream	circular	green	light to medium	absent or weak	present	yellow	rounded	mix
K192396	TUR	medium	absent or weak	medium	medium	cream	circular	green	medium	absent or weak	present	yellow	rounded	Segregation
K192412	TUR	medium	absent or weak	medium	medium	black	circular	green	very light to light	absent or weak	present	yellow	rounded	mix
K192435	TUR	medium	absent or weak	medium	medium	brown	circular	green	mix	absent or weak	mix	yellow	rounded	mix
K192439	TUR	medium	absent or weak	medium	medium	brown	broad elliptic	green	dark	absent or weak	absent or weak	white	rounded	mix
K192442	TUR	medium	absent or weak	medium	medium	red	circular	green	very light to light	absent or weak	absent or weak	pink	rounded	Segregation
K192452	TUR	medium	absent or weak	medium	medium	black	circular	green	medium	absent or weak	present	pinkish red	rounded	Segregation
K192459	TUR	medium	absent or weak	medium	medium	cream	circular	green	very light to light	absent or weak	absent or weak	yellow	rounded	Segregation
K192464	TUR	medium	absent or weak	medium	medium	brown	circular	green	very light to light	absent or weak	present	yellow	rounded	Segregation
K192465	TUR	medium	absent or weak	medium	medium	green	circular	green	very light to light	at apical half	present	white	rounded	Segregation
K192466	TUR	medium	absent or weak	week	medium	cream	circular	green	medium	absent or weak	present	orange	rounded	Segregation
K192472	TUR	medium	absent or weak	medium	medium	cream	circular	green	medium	absent or weak	present	white	rounded	mix
K192491	LBN	medium	absent or weak	medium	medium	cream	circular	green	very light to light	absent or weak	absent or weak	yellow	rounded	Segregation
K192499	TUR	medium	absent or weak	medium	medium	white	circular	green	dark	absent or weak	absent or weak	white	rounded	Inbred
K192500	TUR	medium	absent or weak	week	medium	white	circular	green	dark	on whole fruit	present	white	rounded	Segregation
K192506	IND	medium	absent or weak	medium	medium	black	circular	green	mix	absent or weak	absent or weak	orange	rounded	mix
K192512	IND	medium	absent or weak	medium	medium	black	circular	green	dark	absent or weak	absent or weak	orange	rounded	F1

Supplementary Table 1. Continued.

No.	Origin	Degree of lobing	Marbling	Pubescence	Time of female flowering	Ground color of testa	Shape of apical part	Ground color of skin	Intensity of ground color of skin	Degree of grooving	Stripes	Main color of flesh	Shape of apical part	Prediction of genetic inbreeding
K192513	IND	medium	absent or weak	medium	medium	brown	circular	green	mix	absent or weak	absent or weak	orange	rounded	mix
K192560	PAK	medium	absent or weak	medium	medium	brown	circular	green	medium	absent or weak	present	pinkish red	rounded	mix
K192571	IRN	medium	absent or weak	week	medium	cream	circular	green	medium	absent or weak	present	yellow	rounded	mix
K192573	IRN	medium	absent or weak	week	medium	red	circular	green	dark	absent or weak	absent or weak	pinkish red	rounded	Segregation
K192574	IRN	medium	absent or weak	week	medium	brown	mix	green	very light to light	absent or weak	absent or weak	pinkish red	rounded	Segregation
K192581	JPN	medium	absent or weak	medium	medium	black	circular	green	mix	absent or weak	absent or weak	mix	rounded	mix
K192584	JPN	medium	absent or weak	medium	medium	brown	circular	green	mix	mix	mix	orange	rounded	mix
K192595	NZL	medium	absent or weak	strong	medium	green	circular	green	medium	absent or weak	present	pinkish red	rounded	mix
K192608	IRN	medium	absent or weak	medium	medium	red-brown	broad elliptic	green	very light to light	absent or weak	absent or weak	mix	rounded	mix
K192610	SRB	medium	absent or weak	medium	medium	black	circular	green	very light to light	mix	present	pinkish red	rounded	mix
K192612	LBN	medium	absent or weak	medium	medium	cream	circular	green	dark	absent or weak	absent or weak	orange	rounded	mix
K192613	LBN	medium	absent or weak	medium	medium	cream	circular	green	dark	absent or weak	absent or weak	white	rounded	mix
K192651	IND	medium	absent or weak	medium	medium	red-brown	circular	green	medium to dark	absent or weak	absent or weak	white	rounded	mix
K192766	JPN	medium	absent or weak	week	medium	black	circular	green	mix	absent or weak	mix	orange	rounded	mix
K192767	JPN	medium	absent or weak	medium	medium	black	circular	green	medium	absent or weak	mix	pinkish red	rounded	mix
K192768	JPN	medium	absent or weak	medium	medium	red-brown	circular	green	medium	absent or weak	present	orange	rounded	mix
K192788	UZB	medium	absent or weak	medium	medium	red-brown	circular	green	mix	absent or weak	mix	orange	rounded	mix
K192783	PHL	medium	absent or weak	medium	medium	brown	circular	green	very light to light	absent or weak	absent or weak	orange	rounded	mix
K192784	PHL	medium	absent or weak	week	medium	black	circular	green	medium	absent or weak	present	mix	rounded	Segregation
K192785	PHL	medium	absent or weak	week	medium	black	circular	green	light to medium	absent or weak	present	pinkish red	rounded	Segregation
K192793	RUS	medium	absent or weak	medium	medium	red	circular	green	dark	absent or weak	present	white	rounded	mix
K192799	IRN	medium	absent or weak	week	medium	brown	circular	green	dark	absent or weak	absent or weak	pinkish red	rounded	Segregation
K192800	UKR	medium	absent or weak	week	medium	brown	circular	green	medium	absent or weak	present	yellow	rounded	Inbred
K192801	UKR	medium	absent or weak	medium	medium	black	circular	green	dark	absent or weak	present	orange	rounded	mix
K192971	MKD	medium	absent or weak	medium	medium	black	circular	green	dark	absent or weak	absent or weak	pink	rounded	Segregation
K192972	MKD	medium	absent or weak	medium	medium	black	circular	green	dark	absent or weak	absent or weak	yellow	rounded	Segregation
K192973	MKD	medium	absent or weak	week	medium	brown	circular	green	mix	mix	present	yellow	rounded	mix
K192975	MKD	medium	absent or weak	medium	medium	cream	circular	green	very light to light	absent or weak	absent or weak	pinkish red	rounded	mix
K192976	MKD	medium	absent or weak	week	medium	black	circular	green	very light to light	absent or weak	absent or weak	orange	rounded	mix
K192977	MKD	medium	absent or weak	week	medium	black	circular	green	very light to light	absent or weak	absent or weak	orange	rounded	mix
K192980	MKD	week	absent or weak	week	late	green	circular	green	very light to light	on whole fruit	absent or weak	orange	rounded	mix
K193026	HND	medium	absent or weak	medium	medium	black	circular	green	very light to light	absent or weak	present	pinkish red	rounded	mix
K193032	IRQ	medium	absent or weak	medium	medium	red-brown	circular	green	medium	absent or weak	present	pinkish red	rounded	F1
K193034	CHN	medium	absent or weak	week	medium	red-brown	circular	green	very light to light	absent or weak	present	white	rounded	mix
									medium	absent or weak	present	orange	rounded	mix

Supplementary Table 1. Continued.

No.	Origin	Degree of lobing	Marbling	Pubescence	Time of female flowering	Ground color of testa	Shape of apical part	Ground color of skin	Intensity of ground color of skin	Degree of grooving	Stripes	Main color of flesh	Shape of apical part	Prediction of genetic inbreeding
K193036	MEX	medium	absent or weak	strong	medium	black	circular	green	medium to dark	absent or weak	mix	orange	rounded	mix
K193041	BRA	medium	absent or weak	week	medium	cream	circular	green	dark	absent or weak	present	orange	rounded to conical	mix
K193045	CHN	medium	absent or weak	medium	medium	red-brown	circular	green	medium	absent or weak	present	orange	rounded	mix
K193046	IDN	medium	absent or weak	medium	medium	red-brown	circular	green	medium	absent or weak	present	orange	rounded	mix
K193047	IDN	strong	absent or weak	strong	week	black	circular	green	very light to light	absent or weak	absent or weak	orange	rounded	mix
K193048	IDN	strong	absent or weak	week	medium	brown	circular	green	medium	absent or weak	absent or weak	orange	rounded	Segregation
K193050	RUS	week	absent or weak	medium	medium	black	circular	green	mix	absent or weak	absent or weak	white	rounded	mix
K193052	RUS	week	absent or weak	week	medium	cream	circular	green	medium	absent or weak	present	white	rounded	F1
K193055	RUS	medium	absent or weak	medium	medium	brown	circular	green	very light to light	absent or weak	present	white	rounded	Segregation
K193081	ZWE	medium	absent or weak	week	medium	black	circular	green	very light to light	absent or weak	absent or weak	red	rounded	mix
K193082	ZWE	week	absent or weak	strong	medium	black	circular	green	very light to light	absent or weak	absent or weak	pinkish red	rounded	mix
K193085	ZWE	week	absent or weak	strong	medium	black	circular	green	medium to dark	absent or weak	mix	pinkish red	rounded	mix
K193088	ZWE	medium	absent or weak	week	medium	black	circular	green	medium	absent or weak	present	yellow	rounded	Segregation
K193095	ZWE	medium	absent or weak	medium	medium	black	circular	green	medium	absent or weak	present	pinkish red	rounded	Segregation
K193097	ZWE	medium	absent or weak	medium	medium	black	circular	green	very light to light	absent or weak	present	mix	rounded	mix
K193099	ZWE	medium	absent or weak	medium	medium	brown	circular	green	medium	absent or weak	present	white	rounded	mix
K193113	ZWE	medium	absent or weak	week	medium	black	circular	green	medium to dark	absent or weak	present	pinkish red	rounded	mix
K193116	ZWE	medium	absent or weak	strong	medium	black	circular	green	medium to dark	absent or weak	absent or weak	mix	rounded	mix
K193141	ZWE	strong	absent or weak	week	medium	black	broad elliptic	green	dark	absent or weak	absent or weak	red	rounded to conical	mix
K193143	VEN	medium	absent or weak	week	medium	black	circular	green	medium	absent or weak	present	white	rounded	mix
K193144	VEN	medium	absent or weak	medium	medium	black	circular	green	medium to dark	absent or weak	present	white	rounded	mix
K193151	MLI	medium	absent or weak	strong	medium	cream	broad elliptic	green	medium	absent or weak	present	white	rounded	mix
K193153	NGA	medium	absent or weak	week	medium	cream	circular	green	medium	absent or weak	present	red	rounded	mix
K193154	NGA	medium	absent or weak	medium	medium	cream	circular	green	dark	absent or weak	absent or weak	pinkish red	rounded	mix
K193155	NGA	medium	absent or weak	week	week	cream	circular	green	dark	absent or weak	present	red	rounded to conical	mix
K193157	NGA	medium	absent or weak	medium	medium	cream	circular	green	dark	absent or weak	absent or weak	red	rounded	mix
K193186	ZMB	medium	absent or weak	medium	medium	black	broad elliptic	green	medium to dark	absent or weak	absent or weak	pink	rounded to conical	mix
K193187	ZMB	medium	absent or weak	medium	medium	cream	broad elliptic	green	very light to light	absent or weak	absent or weak	yellow	rounded	mix
K193193	ZMB	medium	absent or weak	week	medium	black	broad elliptic	green	very light to light	absent or weak	present	white	rounded	mix
K193194	ZMB	medium	absent or weak	week	medium	black	broad elliptic	green	medium	absent or weak	present	orange	rounded	mix
K193195	ZMB	medium	absent or weak	medium	medium	red	circular	green	dark	absent or weak	absent or weak	red	rounded	mix
K193196	ZMB	medium	absent or weak	week	medium	red	circular	green	dark	absent or weak	absent or weak	pink	rounded	mix
K193197	ZMB	medium	absent or weak	medium	medium	black	circular	green	dark	absent or weak	absent or weak	white	rounded	Segregation
K193199	UKR	medium	absent or weak	week	medium	brown	circular	green	dark	absent or weak	absent or weak	orange	rounded	mix

Supplementary Table 1. Continued.

No.	Origin	Degree of lobing	Marbling	Pubescence	Time of female flowering	Ground color of testa	Shape of apical part	Ground color of skin	Intensity of ground color of skin	Degree of grooving	Stripes	Main color of flesh	Shape of apical part	Prediction of genetic inbreeding
K193227	Unknown	medium	absent or weak	medium	medium	brown	circular	green	medium	absent or weak	mix	white	rounded to conical	mix
K193228	Unknown	medium	absent or weak	week	medium	red-brown	mix	green	mix	absent or weak	absent or weak	orange	rounded to conical	mix
K193229	Unknown	medium	absent or weak	strong	medium	red-brown	circular	green	medium	absent or weak	present	orange	rounded	mix
K193231	Unknown	medium	absent or weak	medium	medium	black	mix	green	very light to light	absent or weak	mix	orange	rounded to conical	mix
K193233	CHN	medium	absent or weak	medium	medium	black	circular	green	medium to dark	absent or weak	absent or weak	orange	rounded to conical	mix
K193239	ESP	medium	absent or weak	week	medium	black	circular	green	mix	absent or weak	absent or weak	orange	rounded	mix
K193240	ESP	medium	absent or weak	week	medium	red-brown	circular	green	medium to dark	absent or weak	absent or weak	white	rounded	mix
K193268	ESP	strong	absent or weak	week	medium	black	broad elliptic	green	dark	absent or weak	absent or weak	yellow	rounded to conical	Segregation
K193269	ESP	medium	absent or weak	medium	medium	cream	circular	green	dark	absent or weak	absent or weak	yellow	rounded	Segregation
K193270	ESP	medium	absent or weak	medium	medium	black	circular	green	dark	absent or weak	absent or weak	pink	rounded	mix
K193278	ESP	medium	absent or weak	week	medium	black	broad elliptic	green	medium	absent or weak	present	white	rounded to conical	Segregation
K193280	ESP	medium	absent or weak	medium	medium	black	circular	green	dark	absent or weak	absent or weak	orange	rounded	mix
K193282	ESP	medium	absent or weak	medium	medium	brown	broad elliptic	green	medium to dark	absent or weak	absent or weak	orange	rounded	Segregation
K193297	ESP	week	absent or weak	week	medium	cream	circular	green	dark	absent or weak	absent or weak	white	rounded	mix
K193298	RUS	medium	absent or weak	medium	medium	black	circular	green	mix	absent or weak	mix	red	rounded	mix
K193300	RUS	medium	absent or weak	week	medium	white	circular	green	dark	absent or weak	absent or weak	pink	conical	mix
K193301	RUS	medium	absent or weak	week	medium	white	circular	green	dark	absent or weak	absent or weak	yellow	rounded	mix
K193302	RUS	medium	absent or weak	week	medium	black	circular	green	mix	absent or weak	present	white	rounded	mix
K193304	RUS	medium	absent or weak	week	medium	black	circular	green	dark	absent or weak	present	orange	rounded	Segregation
K193316	EGY	medium	absent or weak	week	medium	brown	circular	green	dark	absent or weak	absent or weak	orange	rounded	Segregation
K193333	CHN	medium	absent or weak	medium	medium	brown	circular	green	medium	absent or weak	present	orange	rounded	Segregation
K193334	CHN	medium	absent or weak	medium	medium	black	circular	green	very light to light	absent or weak	present	mix	rounded	mix
K193337	CHN	medium	absent or weak	medium	medium	brown	circular	green	dark	absent or weak	present	orange	rounded	mix
K193340	CHN	medium	absent or weak	week	medium	red	circular	green	mix	absent or weak	present	pinkish red	rounded	Segregation
K193355	SYR	medium	absent or weak	medium	medium	red-brown	circular	green	dark	absent or weak	absent or weak	orange	rounded	Segregation
K193366	MDV	medium	absent or weak	medium	medium	brown	broad elliptic	green	dark	absent or weak	present	pink	rounded	Segregation
K193367	MDV	week	absent or weak	medium	medium	red-brown	circular	green	mix	absent or weak	mix	orange	rounded	mix
K193369	MDV	medium	absent or weak	medium	medium	black	broad elliptic	green	mix	absent or weak	absent or weak	mix	rounded	mix
K193371	MDV	medium	absent or weak	medium	medium	brown	circular	green	very light to light	absent or weak	absent or weak	red	rounded	mix
K193372	MDV	medium	absent or weak	medium	medium	black	circular	green	very light to light	absent or weak	absent or weak	orange	rounded	mix
K193374	MDV	medium	absent or weak	medium	medium	brown	mix	white	very light to light	absent or weak	absent or weak	white	rounded	mix
K193376	MDV	medium	absent or weak	medium	medium	black	broad elliptic	green	very light to light	absent or weak	absent or weak	orange	rounded	Segregation
K193378	MDV	medium	absent or weak	medium	medium	brown	broad elliptic	yellow	very light to light	absent or weak	absent or weak	white	rounded	Segregation
K193379	MDV	medium	absent or weak	medium	medium	black	circular	green	very light to light	absent or weak	absent or weak	orange	rounded	Segregation

Supplementary Table 1. Continued.

No.	Origin	Degree of lobing	Marbling	Pubescence	Time of female flowering	Ground color of testa	Shape of apical part	Ground color of skin	Intensity of ground color of skin	Degree of grooving	Stripes	Main color of flesh	Shape of apical part	Prediction of genetic inbreeding
K193380	MDV	medium	absent or weak	medium	medium	black	circular	green	mix	absent or weak	absent or weak	white	rounded	mix
K193381	PAK	medium	absent or weak	medium	medium	black	circular	green	medium	absent or weak	absent or weak	yellow	rounded	F1
K193386	PAK	medium	absent or weak	week	medium	black	circular	green	very light to light	absent or weak	mix	pinkish red	rounded	mix
K193388	PAK	medium	absent or weak	medium	medium	brown	circular	green	very light to light	mix	absent or weak	orange	rounded	mix
K193393	ESP			late	black	black	broad elliptic	green	dark	absent or weak	absent or weak	pink	conical	Segregation
K193396	ESP	medium	absent or weak	medium	late	black	broad elliptic	green	dark	absent or weak	absent or weak	white	conical	mix
K193400	RUS	medium	absent or weak	week	medium	brown	circular	green	dark	absent or weak	absent or weak	orange	conical	Inbred
K193404	DZA	medium	absent or weak	medium	medium	black	circular	green	very light to light	absent or weak	absent or weak	white	rounded	mix
K193405	BOL	medium	absent or weak	medium	medium	black	broad elliptic	green	dark	absent or weak	absent or weak	pinkish red	conical	Segregation
K193406	BOL	medium	absent or weak	medium	medium	brown	broad elliptic	green	medium	absent or weak	present	white	conical	Segregation
K193407	BOL	medium	absent or weak	medium	medium	black	circular	green	medium	absent or weak	present	pink	rounded	mix
K193408	BOL	medium	absent or weak	medium	medium	red-brown	mix	green	medium	absent or weak	present	orange	rounded	mix
K193481	Unknown	medium	absent or weak	medium	medium	red-brown	circular	green	dark	absent or weak	absent or weak	red	rounded	mix
K193482	Unknown	medium	absent or weak	week	late	brown	circular	green	dark	absent or weak	absent or weak	red	rounded	mix
K193483	Unknown	medium	absent or weak	medium	week	cream	circular	green	medium	absent or weak	absent or weak	white	rounded	mix
K193485	Unknown	medium	absent or weak	strong	medium	black	circular	green	very light to light	absent or weak	absent or weak	orange	rounded	mix
K193488	Unknown	medium	absent or weak	medium	late	white	circular	green	medium	absent or weak	present	orange	rounded	Segregation
K193509	Unknown	medium	absent or weak	strong	medium	black	circular	green	medium	absent or weak	present	pinkish red	rounded	mix