

Appendix



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TABLE S1. Quantitative morphological traits for six Mango cultivars under investigation

Cultivar	A1	A2	LA	LL	LW	LR	LWB	PL	Z1	Z2	PW	TLL
Alfons	22.3- 51.7	52.95-56.6	53.1- 85.85	16-22	3.9- 4.9	2.72- 3.14	0.3- 0.35	2.5-4.7	82.95- 152.25	137.15- 157.6	0.1-0.2	19.2-26.1
	average	24	62	20	4.5	2.99	0.3	3.5	131.43	151.72	0.15	22
	Range	31.5- 56.05	82.9- 100.75	15-19	4.9- 6.4	4.53- 5.14	0.2- 0.35	0.8-2.1	131.7-142	126.2-140.1	0.1-0.2	17-21
Balade	41.43 19.7-	90.91	71.95	17.5	5.5	4.7	0.28	1.5	136.3	131.25	0.12	19.05
	average	28.8	31.6-78.6	16-23	4.1- 5.7	3.46- 4.45	0.45- 0.3	2.9-4.7	121.9- 154.6	141.95- 155.2	0.1-0.2	21-27.35
	Range	22.68	56.54	20	5.1	4	0.35	4	143.43	126.82	0.15	24
Fagr Kilane	54.7- 71.85	108.3- 81.55	70.45- 97.55	17-19	5.4- 6.7	2.79-4.3	0.2-0.3	2.8-3.9	132.55- 143.8	132.8-146.4	0.2-0.3	20.45-23.4
	average	65.11	92.76	18	6	3.5	0.242	2.5	138.9	138.57	0.214	15.52
	Range	20-47.9	54.8-72.9	17-25	4.2- 6.1	2.99- 4.39	0.1- 0.45	1.7-4.9	141.6- 146.65	143.7-148.6	0.15-0.2	23.1-27.8
Sokare	25.46 24.8-	64.51	91.5	23	5.4	3.99	0.3	2.5	145.51	147.33	0.18	25.12
	average	67.95	48.8-78.35	20-27	5.4- 6.9	3.73- 4.55	0.3-0.4	3-3.75	115.6- 154.15	144.15- 158.2	0.2-0.25	23-30
	Range	43.16	64.6	24	6	4.2	0.35	3.5	142.98	130.27	0.24	24.2

TABLE S1. Cont. Qualitative morphological traits for six Mango cultivars under investigation

Cultivar	LAS	LBS	LLS	LM	LVA	LVC	TP
Alfons	Acuminate	Acute	Oblong	Entire	Wide (>60°)	Absent	Thick and tapering
Balade	Acute	Obtuse	Lanceolate	Wavy	Wide (>60°)	Absent	Thick and tapering
Ewias	Acuminate	Acute	Lanceolate	Entire	Wide (>60°)	Absent	Thick and tapering
Fagr Kilane	Acute	Obtuse	Elliptic	Entire	Wide (>60°)	Absent	Thick and tapering
Sokare	Acuminate	Acute	Oblong	Entire	Wide (>60°)	Absent	Thick and tapering
Zebdah	Acute	Acute	Oblong	Entire	Wide (>60°)	Absent	Thick and tapering

TABLE S2. The complete list of quantitative anatomical traits, measurements in micrometer (μm).

Cultivar	UE	LE	UHPY	LHPY	WCVC	LCVC	WLRC	WPRC	LLXV	UEW	LEW	PL	SL	NRC
Alfons	5.079	4.73	19.84	15.315	359.485	219.634	23.254	18.024	11.789	5.068	5.079	13.18	31.448	12-14
Balade	6	6.335	42.463	38.601	403.903	361.867	26.667	Absent	13.92	18	22.091	60.299	150.053	8
Ewias	5.695	3.602	36.021	17.123	259.551	238.549	45.568	10.336	10.916	6.956	3.822	14.957	57.84	4-7
Fagr Kilane	11.18	6.325	26.926	24.021	576.031	386	50.478	Absent	22.191	24.413	25.751	59.703	131.183	8
Sokare	6.289	5.207	32.757	33.947	340.436	314.916	76.942	Absent	15.62	2.427	7.889	7.28	24.459	5
Zebdah	13.601	7.333	40.552	52.017	569.485	337.092	56.604	36.497	17.938	20.396	18.439	61.741	89.968	9-13

TABLE S3. Pearson Correlation Matrix based on morphological quantitative traits

Pearson	LL	LW	LR	LA	PL	PW	LBW	TLL	A1	A2	Z1	Z2
LL	1	0.3664782	0.18487272	0.84019815*	-0.19972193	0.16494644	-0.292323983	-0.10171439	-0.38777444	-0.51630341	0.159605451	-0.22798064
LW	0.3664782	1	0.36552508	0.76641661*	-0.26675898	0.33679802	-0.248520037	-0.297843364	0.38163712	0.16062905	0.159399691	-0.29555606
LR	0.1848727	0.3655251	1	0.32461203	-0.45480844	0.0220226	-0.18985335	-0.22010297	-0.02862734	0.08812443	0.141328447	-0.23831454
LA	0.8401981*	0.7664166*	0.32461203	1	-0.37431541	0.34944924	-0.430230299	-0.310004069	0.01268157	-0.15923273	0.15807254	-0.2682893
PL	-0.1997219	-0.266759	-0.45480844	-0.37431541	1	-0.29791242	0.777479574*	0.817245412*	-0.21621688	-0.17190884	-0.046782796	0.07100385
PW	0.1649464	0.336798	0.0220226	0.34944924	-0.29791242	1	-0.357349444	-0.446502669	0.32909053	0.08111025	0.132351751	-0.06121271
LBW	-0.292324	-0.24852	-0.18983335	-0.4302303	0.77747957*	-0.35734944	1	0.866062226*	-0.2393175	-0.02854515	-0.053937255	0.09118655
TLL	-0.1017144	-0.2978434	-0.22010297	-0.31000407	0.81724541*	-0.44650267	0.866062226*	1	-0.30824482	-0.12660858	-0.004001019	0.09845457
A1	-0.3877744	0.3816371	-0.02862734	0.01268157	-0.21621688	0.32909053	-0.239317501	-0.308244817	1	0.60321074	-0.050660473	0.05137362
A2	-0.5163034	0.160629	0.08812443	-0.15923273	-0.17190884	0.08111025	-0.028545146	-0.126608585	0.60321074	1	-0.085480686	0.37469388
Z1	0.1596055	0.1593997	0.14132845	0.15807254	-0.0467828	0.13235175	-0.053937255	-0.004001019	-0.05066047	-0.08548069	1	-0.20617182
Z2	-0.2279806	-0.2955561	-0.23831454	-0.2682893	0.07100385	-0.06121271	0.091186548	0.098454572	0.05137362	0.37469388	-0.206171821	1

* Correlation is significant at the 0.05 level (2-tailed).

no highly correlated ($r > |0.95|$) pairs of characters were detected; all characters can be retained# highest correlations: TLL- LBW ($r=-0.86$), LL-LA ($r=0.84$), TLL-PL ($r=0.81$), LW-LA ($r=0.766$), LBW-PL ($r=-0.777$)

Table S4. Pearson Correlation Matrix based on anatomical quantitative traits

Pearson	UE	LE	LHPY	LHPY	WCVC	LCVC	WLRC	WPRC	LLXV	UEW	LEW	PL	SL	NRC
UE	1	0.7768578*	0.238331	0.6156929	0.90282843*	0.5998803	0.36148591	0.50401398	0.7126034*	0.7590085*	0.63784347	0.7079465*	0.3990167	-0.69828099
LE	0.7768578*	1	0.36926974	0.8176058*	0.88796984*	0.8004507*	0.11966081	0.28320071	0.8112923*	0.779141*	0.83449911*	0.8501498*	0.6144214	-0.88720025
UHPY	0.238331	0.3692697	1	0.7261529*	0.06562713	0.4204726	0.1881849	0.10202929	0.1499396	0.3124062	0.31510782	0.456414	0.4546204	-0.63735541
LHPY	0.6156929	0.8176058*	0.72615291*	1	0.53713138	0.6045813	0.3580469	0.38456116	0.4753466	0.4493194	0.50540808	0.5960738	0.353057	-0.9149089
WCVC	0.9028284*	0.8879698*	0.06562713	0.5371314	1	0.7330531	0.12395145	0.30159275	0.8717615*	0.8636342*	0.82965035*	0.8227703*	0.5756639	-0.69533887
LCVC	0.5998803	0.8004507*	0.42047257	0.6045813	0.73305312	1	0.27942465	-0.27765308	0.9449602*	0.7874254*	0.92941006*	0.7979743	0.7726799*	-0.86666385
WLRC	0.3614859	0.1196608	0.1881849	0.3580469	0.12395145	0.2794247	1	-0.04509513	0.2562333	-0.121384	-0.04051078	-0.1692071	-0.3141031	-0.44014099
WPRC	0.504014	0.2832007	0.10202929	0.3845612	0.30159275	-0.2776531	-0.04509513	1	-0.1785932	0.1083704	-0.13681747	0.1523571	-0.2091655	-0.09804008
LLXV	0.7126034*	0.8112923*	0.14993964	0.4753466	0.87176154*	0.9449602*	0.25623331	-0.17859321	1	0.8315632*	0.93025306*	0.7857558*	0.7000485*	-0.76762577
UEW	0.7590085*	0.779141*	0.31240625	0.4493194	0.86363419*	0.7874254*	-0.12138396	0.10837037	0.8315632*	1	0.93511354*	0.9696564**	0.8852494*	-0.64019972
LEW	0.6378435	0.8344991*	0.31510782	0.5054081	0.82965035*	0.9294101*	-0.04051078	-0.13681747	0.9302531*	0.9351135*	1	0.9355792*	0.901754*	-0.7471368
PL	0.7079465*	0.8501498*	0.45641396	0.5960738	0.82277032*	0.7979743	-0.16920715	0.15235712	0.7857558*	0.9696564**	0.93557924*	1	0.9072479*	-0.72510698
SL	0.3990167	0.6144214	0.45462042	0.353057	0.57566386	0.7726799	-0.31410314	-0.20916554	0.7000485*	0.8852494*	0.90175404*	0.9072479*	1	-0.5502721
NRC	-0.698281	-0.8872002	-0.63735541	-0.9149089	-0.69533887	-0.86666385	-0.44014099	-0.09804008	-0.7676258	-0.6401997	-0.7471368	-0.725107	-0.5502721	1

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Only one highly correlated ($r > |0.95|$) pairs of characters were detected (PL- UEW); all characters can be retained# Highest correlations: LLXV- LCVC ($r=0.944$), LEW- UEW ($r=0.935$), PL- LEW ($r=0.935$), SL- PL ($r=0.907$)