

Supplementary Table 1 Variability in fruit characteristics of the 2nd generation colchiploids of sweet orange cv. Mosambi

Colchiploid no.	Juice wt. (g)	Juice (%)	TSS (°Brix)	Acidity (%)	TSS: acid ratio	Oil glands (P/S)	Rind appearance (rough/smooth)
Wild type	84.37	52.93	10.27	0.79	12.97	0.33	0.33
M1	94.15	43.47	9.35	0.86	10.87	0.59	0.25
M2	84.82	51.52	7.74	0.81	9.55	0.11	0.15
M3	101.59	49.73	7.13	0.87	8.20	0.00	1.00
M4	92.98	51.09	7.36	0.88	8.41	0.19	0.00
M5	86.52	44.44	7.35	0.82	9.00	0.48	0.00
M6	89.68	47.80	8.21	0.79	10.39	0.00	0.22
M7	95.07	50.24	8.15	0.82	10.01	0.33	0.00
M8	84.16	47.66	6.99	0.88	7.99	0.00	0.88
M10	79.20	42.46	7.18	0.86	8.41	0.22	0.00
M12	84.44	46.85	7.84	0.87	9.28	0.44	0.16
M13	115.01	51.23	7.54	0.90	8.41	0.30	0.33
M14	90.72	47.05	7.57	0.95	8.21	0.30	0.11
M15	98.00	53.54	7.77	0.95	8.17	0.11	0.00
M16	57.83	45.36	9.73	0.81	12.07	0.19	0.88
M17	83.49	46.39	7.63	0.84	9.11	0.55	0.00
M18	93.33	41.60	9.63	0.85	11.30	0.48	0.22
M19	61.17	49.19	8.00	0.90	8.86	0.22	0.22
M20	42.20	43.05	7.57	0.91	8.32	0.15	0.11
M21	93.50	43.55	9.77	0.78	12.53	0.56	0.25
M22	70.67	39.07	9.20	0.74	12.40	0.44	0.16
LSD (P= 0.05)	16.14	6.49	1.30	0.075	2.01	0.20	0.32

M1-M22, 20 2nd generation colchiploids of sweet orange cv. Mosambi; P/S, Prominent/ Suppressed; TSS, Total soluble solids.

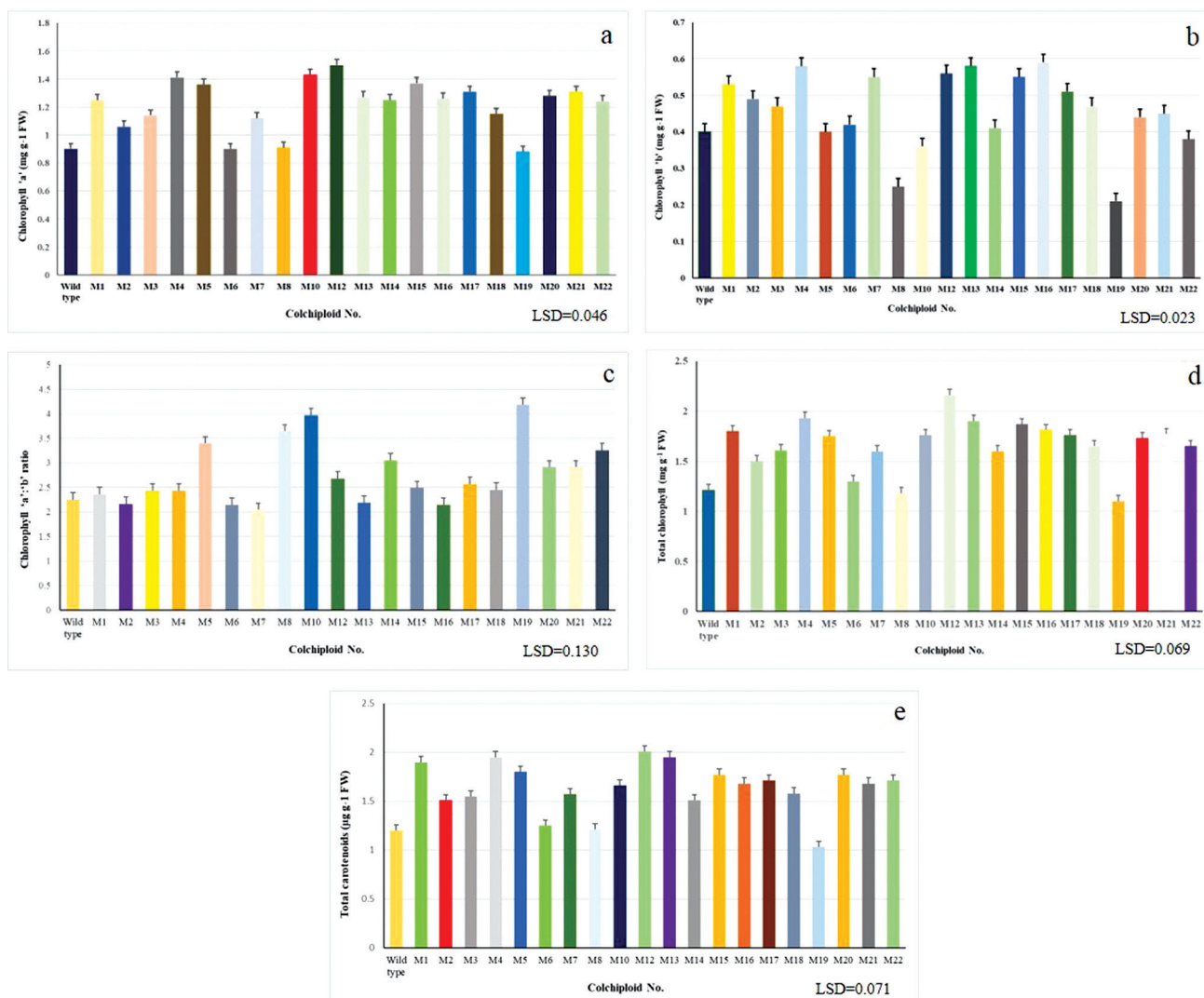
Supplementary Table 2 Morphological and physiological characteristics considered for identification of solid tetraploids

Characteristics	Putative tetraploids
Leaf area (cm ²) > 342.50	M-1, M-2, M-3, M-4, M-5, M-14
Leaf fresh weight (g) > 11.03	M-1, M-3, M-4, M-14
Leaf dry weight (g) > 3.00	M-1, M-2, M-3, M-4, M-5, M-7, M-13, M-14, M-15, M-17, M-21
Specific leaf area (cm ² /g) > 113.80	M-16, M-20, M-22
Specific leaf weight (g/cm ²) < 0.0096	M-2, M-5, M-8, M-10, M-16, M-17, M-18, M-19, M-20, M-21, M-22
Density of foliage tissue (g/kg) < 361.80	M-1, M-2, M-3, M-4, M-7, M-13, M-14, M-16
Succulency (mg H ₂ O/cm ²) > 0.0190	M-1, M-2, M-3, M-4, M-7, M-13, M-14
Leaf blade length (cm) > 9.89 cm	M-1, M-2, M-3, M-4, M-5, M-10, M-13, M-17, M-18, M-19, M-20, M-21, M-22
Leaf blade width (cm) > 6.53 cm	M-1, M-2, M-3, M-4, M-13
Leaf length: Width ratio < 1.51	M-1, M-2, M-3, M-6, M-12, M-13
Leaf petiole length (cm) > 1.70	M-1, M-2, M-3, M-5, M-6, M-7, M-8, M-16, M-19, M-22
Leaf notch (%) > 40.10	M-1, M-2, M-3, M-6, M-8, M-16, M-17, M-18, M-19, M-20
Leaf thickness (mm) > 0.35	M-1, M-2, M-5, M-10, M-13, M-15, M-16, M-17, M-18, M-19, M-21, M-22
Fruit weight (g) > 185	M-1, M-3, M-5, M-6, M-7, M-10, M-13, M-14, M-18, M-21
Fruit length (mm) > 70	M-1, M-3, M-5, M-6, M-13, M-14, M-18, M-21
Fruit width (mm) > 71	M-1, M-3, M-5, M-7, M-13, M-18, M-21
Rind thickness (mm) > 4.25	M-1, M-5, M-6, M-7, M-10, M-17, M-22
Seeds/fruit < 15.00	M-1, M-2, M-3, M-4, M-5, M-12, M-13, M-14, M-15, M-16, M-17, M-18, M-19
Seed test weight (g) > 17.50	M-1, M-5, M-6, M-7, M-13, M-14, M-17, M-21
Chlorophyll 'a' > 1.20	M-1, M-4, M-5, M-10, M-12, M-13, M-14, M-15, M-16, M-17, M-20, M-21, M-22
Chlorophyll 'b' > 0.46	M-1, M-2, M-3, M-4, M-7, M-12, M-13, M-15, M-16, M-17, M-18
Total chlorophyll > 2.1	M-12
Chlorophyll 'a': 'b' < 2.17	M-2, M-6, M-7, M-16
Total carotenoids > 1.94	M-4, M-12

M1-M22, 20 2nd generation colchiploids of sweet orange cv. Mosambi.

Supplementary Table 3 Solid tetraploids of sweet orange cv. Mosambi selected based on their acquiring of different morphological and physiological characteristics (>7)

Colchiploid no.	Characteristics present indicating tetraploidy	No. of characteristics acquired by the tetraploids
M-1	1, 2, 3, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21	19
M-3	1, 2, 3, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 18	15
M-2	1, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 18, 21, 23	14
M-5	1, 3, 5, 8, 11, 13, 14, 15, 16, 17, 18, 19, 20	13
M-13	3, 6, 7, 8, 13, 14, 15, 16, 18, 19, 20, 21	12
M-4	1, 2, 3, 6, 7, 8, 9, 18, 20, 21, 24	11
M-7	3, 6, 7, 11, 14, 16, 17, 19, 21, 23	10
M-16	4, 5, 11, 12, 13, 18, 20, 21	8



Supplementary Fig. 1 Variability in leaf chlorophyll fractions and total carotenoids of the 2nd generation colchiploids of sweet orange cv. Mosambi.
(a) Chlorophyll 'a'; (b) Chlorophyll 'b'; (c) Chlorophyll 'a':'b' ratio; (d) Total chlorophyll; (e) Total carotenoids. LSD ($P=0.05$).