

Table S1. Number of the treated flowers and recovered fruits in the performed treatments (E, SP and CP) in each variety.

	E		SP		CP	
	Treated flowers	Recovered fruits	Treated flowers	Recovered fruits	Treated flowers	Recovered fruits
`Clemenules´	250	38	250	39	200	167
`Monreal´	575	0	220	150	220	163
`Campeona´	200	17	200	84	200	112
`Imperial´	210	40	200	65	200	133
`Salteñita´	220	10	220	127	220	155
`Fortune´	310	0	255	23	237	149
`Moncada´	225	77	220	73	220	159
`Ellendale´	305	16	295	16	275	165
`Serafines´	195	125	145	96	205	133

E: Emasculation; SP: hand self-pollination; CP: hand cross-pollination.

Table S2. 95% confidence interval in the comparison by pairs of fruit setting obtained in the performed treatments (E, SP and CP) in each variety.

	E-SP	E-CP	SP-CP
`Clemenules´	(-0,05; 0,06)	(0,61; 0,75)	(0,61; 0,74)
`Monreal´	(0,62; 0,74)	(0,68; 0,80)	(-0,02; 0,13)
`Campeona´	(0,25; 0,41)	(0,39; 0,55)	(0,06; 0,21)
`Imperial´	(0,05; 0,21)	(0,39; 0,55)	(0,25; 0,42)
`Salteñita´	(0,46; 0,60)	(0,59; 0,72)	(0,06; 0,19)
`Fortune´	(0,05; 0,12)	(0,56; 0,69)	(0,47; 0,60)
`Moncada´	(-0,10; 0,07)	(0,29; 0,46)	(0,30; 0,47)
`Ellendale´	(-0,03; 0,03)	(0,48; 0,61)	(0,48; 0,60)
`Serafines´	(-0,08; 0,12)	(-0,08; 0,10)	(-0,10; 0,08)

E: Emasculación; SP: hand self-pollination; CP: hand cross-pollination. If the confidence interval excludes zero, there are differences in the fruit setting percentages between the compared treatments.

Table S3. SSR markers used for the genetic analysis of the recovered plants from the self-pollinated flowers of 'Imperial' mandarin and 'Ellendale' tangor.

<i>Locus</i>	Noted alleles in Imperial	Noted alleles in Ellendale	LG	Pos	AT	Bibliographic reference
JK-TAA15	188-191	164-204	1	120	55	[1]
Ci02G12	240-250	248-250			55	[2]
JK-TAA41	148-154	135-158	2	161	55	[1]
MEST86	113-120		8	15	55	[3]
MEST192	222-230		6	65	55	[4]
Ci04H06	188-190		2	28	55	[5]
mCrCIR03G05	222-228		4	75	50	[5]
mCrCi05A05	144-152		2	153	50	[5]
mCrCIR02D09	236-240		2	13	55	[5]
Ci02D04b		201-229	4	86	50	[6]
mCrCIR07F11		160-162	9	49	50	[6]
MEST15		174-189			55	[3]
MEST104		236-242	5	35	55	[3]
mCrCIR01C06		127-129	6	89	50	[5]

Numbers indicate the size of alleles in nucleotides for SSR markers. (LG) Linkage group; (Pos) Marker position in the reference Clementine genetic map (Ollitrault et al. 2012), centimorgans (cM); (AT) Annealing Temperature °C.

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Table S4. Observed alleles with the SSR markers used for the genetic analysis of the diploid hybrids recovered from the self-pollination of 'Imperial' mandarin and 'Ellendale' tangor.

	JK-TAA41	Ci02G12	Ci04H06	mCrCi05A05	mCrCIR03G05	mCrCIR02D09	MEST86	MEST192
Imperial	148-154	240-250	188-190	144-152	222-228	236-240	113-120	222-230
Imperial SP-1	148-154	240-250	188-188	152-152	222-228	236-240	113-113	230-230
Imperial SP-2	148-154	240-250	188-188	144-152	222-228	236-240	113-120	230-230
Imperial SP-3	154-154	240-240	188-188	152-152	222-228	236-240	113-113	222-230
Imperial SP-4	148-154	240-250	188-188	144-152	222-228	236-236	113-120	222-230
Imperial SP-5	154-154	250-250	188-188	152-152	222-228	236-240	113-113	222-222
Imperial SP-6	148-154	240-250	188-188	144-152	222-222	236-240	113-120	230-230

	JK-TAA15	JK-TAA41	Ci02G12	Ci02D04b	mCrCIR01C06	mCrCIR07F11	MEST15	MEST104
Ellendale	164-204	138-158	248-250	201-229	131-133	160-162	174-189	236-242
Ellendale SP-1	204-204	138-138	248-248	201-229	131-133	162-162	189-189	236-242
Ellendale SP-2	164-204	138-158	248-250	201-229	133-133	160-162	174-189	236-242
Ellendale SP-3	164-164	138-158	248-248	201-229	133-133	162-162	189-189	242-242
Ellendale SP-4	164-164	138-158	250-250	229-229	133-133	160-162	174-189	236-242
Ellendale SP-5	164-164	158-158	250-250	201-229	133-133	160-162	174-189	242-242
Ellendale SP-6	164-204	158-158	248-248	201-229	131-133	160-162	189-189	242-242
Ellendale SP-7	204-204	138-158	248-248	201-201	133-133	160-162	174-189	236-242
Ellendale SP-8	164-164	138-138	248-250	201-229	131-133	160-160	174-189	242-242
Ellendale SP-9	164-204	138-158	248-250	201-229	131-133	160-162	174-189	236-236
Ellendale SP-10	164-164	138-158	248-250	201-229	131-131	160-162	174-189	236-242
Ellendale SP-11	164-164	138-158	248-250	201-229	131-131	160-162	174-189	236-242

Numbers indicate the size of alleles in nucleotides for SSR markers.

Table S5. Number of seeds per fruit (nsp) from SP treatment and fruit setting percentage (fsp) from E, SP and CP treatments obtained in preliminary study.

	SP (nsp)	E (fsp)	SP (fsp)	CP (fsp)
`Clemenules´	0	19 (a)	20 (a)	85 (b)
`Monreal´	14.5	0	75 (a)	80 (a)
`Campeona´	5.4	6 (a)	21 (b)	36 (c)
`Imperial´	0	2 (a)	6 (a)	36 (b)
`Salteñita´	10.6	3 (a)	62 (b)	67 (b)
`Fortune´	0	0	13 (a)	74 (b)
`Moncada´	0	38 (a)	31 (a)	88 (b)
`Ellendale´	1.1 *	4 (a)	11 (b)	63 (c)
`Serafines´	Np	60 (a)	Np	60 (a)

SP: hand self-pollination; E: Emasculation; CP: hand cross-pollination. For each variety, significant differences in fsp (95% confidence interval for fruit setting proportions) between treatments are indicated by different letters in brackets. Np: Not performed. *Ellendale produced 57% of seedless fruits and 43% of fruits with an average of 2.6 seeds per fruit.

Table S6. Number of treated flowers, recovered fruits and fruit set percentage from treatments E and CP in each of the four replicates R1, R2, R3 and R4, and for each studied variety.

		E			CP		
		Treated flowers	Recovered fruits	Fruit Set (%)	Treated flowers	Recovered fruits	Fruit Set (%)
`Clemenules´	R1	75	18	24 (a)	50	43	86 (b)
	R2	60	4	7 (a)	50	38	76 (b)
	R3	45	12	27 (a)	50	40	80 (b)
	R4	70	4	6 (a)	50	46	92 (b)
`Monreal´	R1	75	0	0 (a)	60	48	80 (b)
	R2	390	0	0 (a)	50	35	70 (b)
	R3	60	0	0 (a)	60	49	82 (b)
	R4	50	0	0 (a)	50	31	62 (b)
`Campeona´	R1	50	1	2 (a)	50	23	46 (b)
	R2	50	5	10 (a)	50	25	50 (b)
	R3	50	10	20 (a)	50	30	60 (b)
	R4	50	1	2 (a)	50	34	68 (b)
`Imperial´	R1	50	1	2 (a)	50	18	36 (b)
	R2	50	19	38 (a)	50	39	78 (b)
	R3	60	5	8 (a)	50	35	70 (b)
	R4	50	15	30 (a)	50	41	82 (b)
`Salteñita´	R1	70	2	3 (a)	70	47	67 (b)
	R2	50	2	4 (a)	50	38	76 (b)
	R3	50	1	2 (a)	50	29	58 (b)
	R4	50	5	10 (a)	50	41	82 (b)
`Fortune´	R1	60	0	0 (a)	25	18	72 (b)
	R2	100	0	0 (a)	62	45	73 (b)
	R3	50	0	0 (a)	50	28	56 (b)
	R4	100	0	0 (a)	100	58	58 (b)
`Moncada´	R1	75	30	40 (a)	75	52	69 (b)
	R2	20	9	45 (a)	20	20	100 (b)
	R3	80	28	35 (a)	75	57	76 (b)
	R4	50	10	20 (a)	50	30	60 (b)
`Ellendale´	R1	70	0	0 (a)	60	32	53 (b)
	R2	35	5	14 (a)	25	18	72 (b)
	R3	100	4	4 (a)	100	61	61 (b)
	R4	100	7	7 (a)	90	54	60 (b)
`Serafines´	R1	45	27	60 (a)	45	27	60 (a)
	R2	40	25	63 (a)	50	29	58 (a)
	R3	50	30	60 (a)	50	35	70 (a)
	R4	60	43	72 (a)	60	42	70 (a)

E: Emasculación; CP: hand cross-pollination. Four trees of each variety were used to perform the treatments. Thus, four replicates R1, R2, R3 and R4 per treatment were performed in each variety. For each replicate, significant differences in fruit set percentage (95% confidence interval for fruit setting proportions) between treatments are indicated by different letters in brackets.