

Table S1: effects of treatments, linear contrasts and mean values on mSWP, averaged during the three years; values below 0.05 and different letters were considered significant.

Midday stem water potential (MPa)			
	p-value		
TRT	<.0001		
<u>Lin.Contrast</u>	Pr>F		
ws ww	<.0001		
B <i>vs</i> RW	<.0001		
Irrigation Net	0.34		
Irrigation 50% shade	<.0001		
	Net _{irrigation}	Means	SE
	B _{ws}	-1.40	0.04 d
	R _{ws}	-1.27	0.03 c
	W _{ws}	-1.29	0.03 c
	B _{ww}	-1.04	0.02 b
	R _{ww}	-0.95	0.02 a
	W _{ww}	-0.98	0.02 ab

Table S2: effects of treatments and load, linear contrasts and LS mean values on mid-season leaf gas exchanges, averaged during the three years; values below 0.05 and different letters were considered significant.

Mid-season leaf gas exchanges <i>covaried with</i> Load							
Midday photosynthesis ($\mu\text{mol CO}_2 \text{ m}^{-2} \text{ s}^{-1}$)				Midday stomatal conductance ($\text{mmol CO}_2 \text{ m}^{-2} \text{ s}^{-1}$)			
	p-value				p-value		
TRT	<.0001			TRT	<.0001		
Load	0.016			Load	0.048		
<u>Lin.Contrast</u>	Pr>F			<u>Lin.Contrast</u>	Pr>F		
ws ww	<.0001			ws ww	<.0001		
B <i>vs</i> RW	0.16			B <i>vs</i> RW	0.34		
Irrigation Net	0.83			Irrigation Net	0.65		
Irrigation 50% shade	<.0001			Irrigation 50% shade	<.0001		
	Net _{irrigation}	LS Means	SE		Net _{irrigation}	LS Means	SE
	B _{ws}	9.23	1.15 c		B _{ws}	0.102	0.017 b
	R _{ws}	10.71	1.06 bc		R _{ws}	0.127	0.016 b
	W _{ws}	13.41	1.27 bc		W _{ws}	0.156	0.019 ab
	B _{ww}	15.20	1.15 ab		B _{ww}	0.200	0.017 a
	R _{ww}	16.32	1.03 ab		R _{ww}	0.209	0.016 a
	W _{ww}	16.95	1.03 a		W _{ww}	0.207	0.016 a

Table S3: effects of treatments and load, linear contrasts and LS mean values on pre-harvest leaf gas exchanges, averaged during the three years; values below 0.05 and different letters were considered significant.

Pre-harvest leaf gas exchanges <i>covaried with</i> Load								
Midday photosynthesis ($\mu\text{mol CO}_2 \text{ m}^{-2} \text{ s}^{-1}$)				Midday stomatal conductance ($\text{mmol CO}_2 \text{ m}^{-2} \text{ s}^{-1}$)				
		p-value				p-value		
TRT		<.0001		TRT		<.0001		
Load		0.0012		Load		0.0116		
<u>Lin.Contrast</u>		Pr>F		<u>Lin.Contrast</u>		Pr>F		
ws ww		0.0002		ws ww		0.0002		
B <i>vs</i> RW		0.26		B <i>vs</i> RW		0.063		
Irrigation Net		0.68		Irrigation Net		0.56		
Irrigation 50% shade		0.0046		Irrigation 50% shade		0.0008		
	Net _{irrigation}	LS Means	SE		Net _{irrigation}	LS Means	SE	
	B _{ws}	11.35	1.82	b	B _{ws}	0.104	0.045	b
	R _{ws}	11.13	2.05	b	R _{ws}	0.158	0.051	ab
	W _{ws}	12.66	1.03	b	W _{ws}	0.157	0.025	b
	B _{ww}	15.95	1.35	ab	B _{ww}	0.186	0.034	ab
	R _{ww}	16.20	1.02	a	R _{ww}	0.249	0.025	a
	W _{ww}	17.13	1.04	a	W _{ww}	0.272	0.026	a

Table S4: effects of treatments, load and their interaction, linear contrasts and LS mean values on fruit absolute growth rate, averaged during the three years; values below 0.05 and different letters were considered significant.

Fruit absolute growth rate (g day ⁻¹) <i>covaried with</i> Load				
	p-value			
TRT	<.0001			
Load	0.57			
TRT*Load	<.0001			
<u>Lin.Contrast</u>	Pr>F			
ws ww	0.11			
B <i>vs</i> RW	<.0001			
Irrigation Net	0.46			
Irrigation 50% shade	0.32			
	Net _{irrigation}	LS Means	SE	
	B _{ws}	1.122	0.085	c
	R _{ws}	1.325	0.086	abc
	W _{ws}	1.382	0.080	ab
	B _{ww}	1.463	0.078	a
	R _{ww}	1.644	0.073	a
	W _{ww}	1.509	0.072	a

Table S5: effects of treatments and load, linear contrasts and LS mean values on harvest parameters, averaged during the three years; values below 0.05 and different letters were considered significant.

Total yield (kg tree ⁻¹) <i>covaried with</i> Load				Marketable yield (kg tree ⁻¹) <i>covaried with</i> Load			
	p-value				p-value		
TRT	0.023			TRT	<.0001		
Load	<.0001			Load	<.0001		
<u>Lin.Contrast</u>	Pr>F			<u>Lin.Contrast</u>	Pr>F		
ws ww	0.08			ws ww	<.0001		
B <i>vs</i> RW	0.75			B <i>vs</i> RW	0.30		
Irrigation Net	0.09			Irrigation Net	0.0013		
Irrigation 50% shade	0.66			Irrigation 50% shade	0.1226		
	Net _{irrigation}	LS Means	SE		Net _{irrigation}	LS Means	SE
	B _{ws}	13.44	0.922 b		B _{ws}	4.92	0.615 c
	R _{ws}	14.56	0.845 ab		R _{ws}	9.01	1.050 b
	W _{ws}	15.86	0.957 ab		W _{ws}	8.21	1.190 b
	B _{ww}	16.19	0.923 a		B _{ww}	12.34	1.147 a
	R _{ww}	15.45	0.837 ab		R _{ww}	10.77	1.041 a
	W _{ww}	15.77	0.817 ab		W _{ww}	9.72	1.015 ab

Table S6: effects of treatments, linear contrasts and mean values on quality parameters, averaged during the three years; values below 0.05 and different letters were considered significant.

Quality parameters									
Visual colour (0-100)					Ripeness (I _{AD})				
		p-value					p-value		
TRT		0.37			TRT		<.0001		
<u>Lin.Contrast</u>		Pr>F			<u>Lin.Contrast</u>		Pr>F		
ws ww		0.3			ws ww		0.78		
B vs RW		0.21			B vs RW		<.0001		
Irrigation Net		0.09			Irrigation Net		0.38		
Irrigation 50% shade		0.07			Irrigation 50% shade		0.78		
		Net _{irrigation}	Means	SE			Net _{irrigation}	Means	SE
		B _{ws}	35.90	2.85 a			B _{ws}	0.599	0.020 a
		R _{ws}	36.96	2.81 a			R _{ws}	0.526	0.016 bcd
		W _{ws}	37.23	2.91 a			W _{ws}	0.510	0.017 cd
		B _{ww}	39.27	3.25 a			B _{ww}	0.579	0.017 ab
		R _{ww}	31.24	3.21 a			R _{ww}	0.556	0.015 abc
		W _{ww}	31.86	3.35 a			W _{ww}	0.490	0.017 d
Firmness (kg cm ⁻²)					Soluble solid content (°Brix)				
		p-value					p-value		
TRT		0.15			TRT		<.0001		
<u>Lin.Contrast</u>		Pr>F			<u>Lin.Contrast</u>		Pr>F		
ws ww		0.2			ws ww		<.0001		
B vs RW		0.39			B vs RW		0.83		
Irrigation Net		0.20			Irrigation Net		0.74		
Irrigation 50% shade		0.07			Irrigation 50% shade		<.0001		
		Net _{irrigation}	Means	SE			Net _{irrigation}	Means	SE
		B _{ws}	8.02	0.21 a			B _{ws}	14.24	0.26 a
		R _{ws}	8.30	0.23 a			R _{ws}	14.09	0.25 a
		W _{ws}	7.91	0.25 a			W _{ws}	14.36	0.23 a
		B _{ww}	8.13	0.24 a			B _{ww}	11.88	0.11 b
		R _{ww}	7.40	0.23 a			R _{ww}	12.15	0.12 b
		W _{ww}	7.97	0.28 a			W _{ww}	11.79	0.08 b
Total acidity (pH)					Ratio SSC/TA				
		p-value					p-value		
TRT		0.01			TRT		0.01		
<u>Lin.Contrast</u>		Pr>F			<u>Lin.Contrast</u>		Pr>F		
ws ww		0.32			ws ww		0.01		
B vs RW		0.19			B vs RW		0.47		
Irrigation Net		0.02			Irrigation Net		0.13		
Irrigation 50% shade		0.61			Irrigation 50% shade		0.004		
		Net _{irrigation}	Means	SE			Net _{irrigation}	Means	SE
		B _{ws}	3.74	0.14 ab			B _{ws}	3.69	0.22 ab
		R _{ws}	3.38	0.17 ab			R _{ws}	4.03	0.13 a
		W _{ws}	3.88	0.11 a			W _{ws}	3.55	0.14 ab
		B _{ww}	3.28	0.09 b			B _{ww}	3.64	0.11 ab
		R _{ww}	3.71	0.12 ab			R _{ww}	3.40	0.12 ab
		W _{ww}	3.68	0.17 ab			W _{ww}	3.30	0.14 b
Starch (1 immature - 10 mature)					Relative dry matter (%)				
		p-value					p-value		
TRT		0.005			TRT		0.0002		
<u>Lin.Contrast</u>		Pr>F			<u>Lin.Contrast</u>		Pr>F		
ws ww		0.01			ws ww		<.0001		
B vs RW		0.85			B vs RW		0.18		
Irrigation Net		0.96			Irrigation Net		0.58		
Irrigation 50% shade		0.04			Irrigation 50% shade		<.0001		
		Net _{irrigation}	Means	SE			Net _{irrigation}	Means	SE
		B _{ws}	7.27	0.32 a			B _{ws}	16.4%	0.004 ab
		R _{ws}	7.49	0.32 a			R _{ws}	17.3%	0.003 a
		W _{ws}	6.92	0.35 a			W _{ws}	17.3%	0.003 a
		B _{ww}	6.57	0.41 ab			B _{ww}	14.9%	0.002 b
		R _{ww}	7.27	0.33 a			R _{ww}	15.5%	0.008 ab
		W _{ww}	5.78	0.30 b			W _{ww}	15.0%	0.002 b

Table S7: effects of treatments, linear contrasts and mean values on panel test parameters, averaged during the three years; values below 0.05 and different letters were considered significant.

Panel test parameters											
Firmness				Crunchiness				Juiciness			
			p-value				p-value				p-value
TRT			0.065	TRT			0.3	TRT			0.61
<u>Lin.Contrast</u>			Pr>F	<u>Lin.Contrast</u>			Pr>F	<u>Lin.Contrast</u>			Pr>F
ws ww			0.27	ws ww			0.27	ws ww			0.66
B vs RW			0.99	B vs RW			0.59	B vs RW			0.92
Irrigation Net			0.18	Irrigation Net			0.12	Irrigation Net			0.10
Irrigation 50% shade			0.09	Irrigation 50% shade			0.07	Irrigation 50% shade			0.19
Net _{irrigation}	Means	SE		Net _{irrigation}	Means	SE		Net _{irrigation}	Means	SE	
B _{ws}	6.24	0.23	ab	B _{ws}	5.93	0.24	a	B _{ws}	5.83	0.22	a
R _{ws}	5.63	0.26	b	R _{ws}	5.60	0.26	a	R _{ws}	5.53	0.24	a
W _{ws}	6.33	0.21	ab	W _{ws}	5.83	0.20	a	W _{ws}	5.55	0.20	a
B _{ww}	6.10	0.25	ab	B _{ww}	5.71	0.25	a	B _{ww}	5.50	0.22	a
R _{ww}	6.10	0.21	ab	R _{ww}	5.93	0.24	a	R _{ww}	5.95	0.20	a
W _{ww}	6.62	0.19	a	W _{ww}	6.36	0.21	a	W _{ww}	5.69	0.22	a
Mealy				Astringency				Sweetness			
			p-value				p-value				p-value
TRT			0.88	TRT			0.99	TRT			0.44
<u>Lin.Contrast</u>			Pr>F	<u>Lin.Contrast</u>			Pr>F	<u>Lin.Contrast</u>			Pr>F
ws ww			0.32	ws ww			0.96	ws ww			0.21
B vs RW			0.74	B vs RW			0.79	B vs RW			0.94
Irrigation Net			0.76	Irrigation Net			0.75	Irrigation Net			0.85
Irrigation 50% shade			0.32	Irrigation 50% shade			0.88	Irrigation 50% shade			0.26
Net _{irrigation}	Means	SE		Net _{irrigation}	Means	SE		Net _{irrigation}	Means	SE	
B _{ws}	3.41	0.26	a	B _{ws}	3.78	0.26	a	B _{ws}	5.24	0.23	a
R _{ws}	3.49	0.30	a	R _{ws}	3.86	0.24	a	R _{ws}	5.51	0.20	a
W _{ws}	3.33	0.27	a	W _{ws}	3.95	0.25	a	W _{ws}	5.02	0.21	a
B _{ww}	3.29	0.32	a	B _{ww}	3.88	0.27	a	B _{ww}	5.07	0.23	a
R _{ww}	3.26	0.30	a	R _{ww}	3.86	0.26	a	R _{ww}	4.90	0.21	a
W _{ww}	3.00	0.25	a	W _{ww}	3.88	0.25	a	W _{ww}	5.14	0.23	a
Acidity				Aroma				Final judgement			
			p-value				p-value				p-value
TRT			0.95	TRT			0.56	TRT			0.09
<u>Lin.Contrast</u>			Pr>F	<u>Lin.Contrast</u>			Pr>F	<u>Lin.Contrast</u>			Pr>F
ws ww			0.84	ws ww			0.45	ws ww			0.64
B vs RW			0.64	B vs RW			0.54	B vs RW			0.87
Irrigation Net			0.40	Irrigation Net			0.29	Irrigation Net			0.28
Irrigation 50% shade			0.52	Irrigation 50% shade			0.99	Irrigation 50% shade			0.80
Net _{irrigation}	Means	SE		Net _{irrigation}	Means	SE		Net _{irrigation}	Means	SE	
B _{ws}	4.22	0.26	a	B _{ws}	5.02	0.25	a	B _{ws}	5.34	0.22	a
R _{ws}	4.21	0.22	a	R _{ws}	4.91	0.25	a	R _{ws}	5.35	0.22	a
W _{ws}	4.07	0.24	a	W _{ws}	4.50	0.19	a	W _{ws}	4.88	0.16	a
B _{ww}	4.02	0.25	a	B _{ww}	4.62	0.22	a	B _{ww}	5.00	0.24	a
R _{ww}	4.26	0.24	a	R _{ww}	4.62	0.23	a	R _{ww}	4.81	0.23	a
W _{ww}	4.33	0.26	a	W _{ww}	4.79	0.19	a	W _{ww}	5.52	0.19	a