

Table 1: Effect of calcium nitrate and chitosan, cold storage periods and their interaction on Elmamoura guava fruit weight losses (%) of during in 2015 and 2016 seasons

Treatments	Zero	1 st Season					Treat. av.	Zero	2 nd Season					Treat. av.
		Storage periods (days)							Storage periods (days)					
		15	22	29	36	43			15	22	29	36	43	
Calc. Nit. 0% + Chitosan 0%	0.0	0.000 h	0.033 gh	0.000 h	0.000 h	0.167 def	0.040 C	0.0	0.000 f	0.133 cde	0.000 f	0.133 cde	0.133 cde	0.080 AB
Calc. Nit. 0% + Chitosan 0.5%		0.000 h	0.067 fgh	0.000 h	0.000 h	0.300 bc	0.073 BC		0.000 f	0.000 f	0.000 f	0.200 bcd	0.233 abc	0.087 AB
Calc. Nit. 0% + Chitosan 1%		0.000 h	0.033 gh	0.000 h	0.000 h	0.300 bc	0.067 BC		0.000 f	0.067 ef	0.067 ef	0.100 def	0.333 a	0.113 AB
Calc. Nit. 2% + Chitosan 0%		0.000 h	0.033 gh	0.000 h	0.000 h	0.333 ab	0.073 BC		0.000 f	0.000 f	0.200 bcd	0.167 b-e	0.200 bcd	0.113 AB
Calc. Nit. 2% + Chitosan 0.5%		0.000 h	0.100 e-h	0.000 h	0.167 def	0.300 bc	0.113 AB		0.000 f	0.00 0 f	0.067 ef	0.100 def	0.267 ab	0.087 AB
Calc. Nit. 2% + Chitosan 1%		0.000 h	0.000 h	0.000 h	0.167 def	0.267 bcd	0.087 BC		0.000 f	0.000 f	0.000 f	0.233 abc	0.100 def	0.067 B
Calc. Nit. 4% + Chitosan 0%		0.000 h	0.000 h	0.000 h	0.200 cde	0.367 ab	0.113 AB		0.000 f	0.000 f	0.167 b-e	0.233 abc	0.267 ab	0.133 A
Calc. Nit. 4% + Chitosan 0.5%		0.000 h	0.067 fgh	0.000 h	0.000 h	0.133 efg	0.040 C		0.000 f	0.000 f	0.067 ef	0.167 b-e	0.200 bcd	0.087 AB
Calc. Nit. 4% + Chitosan 1%		0.000 h	0.133 efg	0.033 gh	0.167 def	0.433 a	0.153A		0.000 f	0.000 f	0.067 ef	0.233 abc	0.267 ab	0.113 AB
Storage Per. av.		0.000 C	0.051 B	0.004 C	0.078 B	0.289 A			0.000 D	0.022 D	0.070 C	0.174 B	0.222 A	

Means having same alphabetical letter(s) within each row and column did not significantly differ according to Duncan's multiple range test at 5% level. Capital letters are for main effects, while small letters for interaction means

Table 2: Effect of calcium nitrate and chitosan, cold storage periods and their interaction on Elmamoura guava decay (%) of during in 2015 and 2016 seasons

Treatments	Zero	1 st season					Treat. av.	Zero	2 nd season					Treat. av.
		Storage periods (days)							Storage periods (days)					
		15	22	29	36	43			15	22	29	36	43	
Calc. Nit. 0% + Chitosan 0%	0.0	0.0	0.0	0.0	9.52 b	14.28 a	4.76 A	0.0	0.0	0.0	0.0	14.2 a	14.28 a	5.71 A
Calc. Nit. 0% + Chitosan 0.5%		0.0	0.0	0.0	4.76 c	0.00 d	0.95 B		0.0	0.0	0.0	4.76 b	0.00 b	0.95 B
Calc. Nit. 0% + Chitosan 1%		0.0	0.0	0.0	0.0	0.0	0.00 B		0.0	0.0	0.0	0.0	0.0	0.00 B
Calc. Nit. 2% + Chitosan 0%		0.0	0.0	0.0	0.0	0.0	0.00 B		0.0	0.0	0.0	0.0	0.0	0.00 B
Calc. Nit. 2% + Chitosan 0.5%		0.0	0.0	0.0	0.0	0.0	0.00 B		0.0	0.0	0.0	0.0	0.0	0.00 B
Calc. Nit. 2% + Chitosan 1%		0.0	0.0	0.0	0.0	0.0	0.00 B		0.0	0.0	0.0	0.0	0.0	0.00 B
Calc. Nit. 4% + Chitosan 0%		0.0	0.0	0.0	0.0	0.0	0.00 B		0.0	0.0	0.0	0.0	0.0	0.00 B
Calc. Nit. 4% + Chitosan 0.5%		0.0	0.0	0.0	0.0	0.0	0.00 B		0.0	0.0	0.0	0.0	0.0	0.00 B
Calc. Nit. 4% + Chitosan 1%		0.0	0.0	0.0	0.0	0.0	0.00 B		0.0	0.0	0.0	0.0	0.0	0.00 B
Storage Per. av.		0.00 B	0.00 B	0.00 B	1.58 A	1.58 A				0.00 B	0.00 B	0.00 B	2.11 A	1.58 AB

Means having same alphabetical letter(s) within each row and column did not significantly differ according to Duncan's multiple range test at 5% level. Capital letters are for main effects, while small letters for interaction means

Table 3: Effect of calcium nitrate and chitosan, cold storage periods and their interaction on Elmamoura guava firmness (%) of during in 2015 and 2016 seasons

Treatments	Zero	1 st season					Treat. av.	Zero	2 nd season					Treat. av.
		Storage periods (days)							Storage periods (days)					
		15	22	29	36	43			15	22	29	36	43	
Calc. Nit. 0% + Chitosan 0%	910	836.70 abc	703.8 7 b-n	664.4 0 e-o	758.77 a-k	613.3 0 k-p	715.41 A	745	724.4 0 ab	524.4 3 e-l	613.30 a-k	636.6 3 a-j	528.8 3 d-l	605.52 A
Calc. Nit. 0% + Chitosan 0.5%		786.63 a-g	763.3 0 a-j	774.4 0 a-i	726.17 b-n	605.6 3 l-p	731.23 A		653.3 0 a-g	561.1 0 b-l	572.20 b-l	611.0 7 a-k	442.2 0 l	567.97 AB
Calc. Nit. 0% + Chitosan 1%		795.97 a-f	717.7 7 b-n	717.7 3 b-n	690.00 c-o	629.9 7 h-p	710.29 A		764.4 0 a	674.4 0 a-e	534.43 c-l	526.6 0 e-l	593.3 0 b-l	618.63 A
Calc. Nit. 2% + Chitosan 0%		772.73 a-i	845.5 0 ab	711.0 7 b-n	627.77 i-p	646.6 3 g-p	720.74 A		696.6 3 a-d	662.1 7 a-f	644.40 a-i	588.8 3 b-l	478.8 h-l	614.17 A
Calc. Nit. 2% + Chitosan 0.5%		715.53 b-n	764.4 3 a-j	692.2 0 c-o	544.97 op	584.4 3 nop	660.31 A		467.7 3 j-l	578.8 3 b-l	581.10 b-l	506.6 3 e-l	578.8 7 b-l	542.63 AB
Calc. Nit. 2% + Chitosan 1%		821.10 a-d	806.6 3 a-e	731.1 0 b-n	646.63 g-p	653.3 3 f-p	731.76 A		489.9 7 g-l	627.7 7 a-k	647.77 a-h	615.5 0 a-k	667.7 3 a-f	609.75 A
Calc. Nit. 4% + Chitosan 0%		731.67 b-n	719.9 7 b-n	683.3 0 d-o	648.83 f-p	513.3 0 p	659.41 A		458.8 3 kl	588.7 3 b-l	516.63 e-l	548.3 0 b-l	476.6 7 i-l	517.83 B
Calc. Nit. 4% + Chitosan 0.5%		894.43 a	777.8 3 a-g	747.7 3 a-k	592.20 m-p	624.4 0 j-p	727.32 A		503.3 0 f-l	675.5 3 a-e	659.97 a-f	632.2 0 a-j	519.9 7 e-l	598.19 AB
Calc. Nit. 4% + Chitosan 1%		815.53 a-d	775.5 3 a-h	696.6 3 c-n	733.30 b-m	612.2 0 k-p	726.64 A		701.0 7 abc	621.0 7 a-k	612.20 a-k	479.0 0 h-l	506.6 7 e-l	584.00 AB
Storage Per. av.		796.70 A	763.8 7 A	713.1 7 B	663.18 C	609.2 4 D			606.6 3 A	612.6 7 A	598.00 A	571.6 4 AB	532.5 6 B	

Means having same alphabetical letter(s) within each row and column did not significantly differ according to Duncan's multiple range test at 5% level. Capital letters are for main effects, while small letters for interaction means

Table 4: Effect of calcium nitrate and chitosan, cold storage periods and their interaction on Elmamoura guava total acidity (%) of during in 2015 and 2016 seasons

Treatments	Zero	1 st season					Treat. av.	Zero	2 nd season					Treat. av.
		Storage periods (days)							Storage periods (days)					
		15	22	29	36	43			15	22	29	36	43	
Calc. Nit. 0% + Chitosan 0%	0.53	0.34 i	0.42 b-h	0.38 f-i	0.42 b-h	0.40 d-i	0.39 B	0.38	0.23 b	0.25 b	0.30 b	0.25 b	0.30 b	0.26 B
Calc. Nit. 0% + Chitosan 0.5%		0.39 e-i	0.49 ab	0.40 c-i	0.42 b-h	0.36 hi	0.41 AB		0.23 b	0.25 b	0.28 b	0.25 b	0.28 b	0.25 B
Calc. Nit. 0% + Chitosan 1%		0.38 ghi	0.46 a-d	0.38 f-i	0.44 a-g	0.36 hi	0.41 AB		0.25 b	0.25 b	0.28 b	0.30 b	0.36 b	0.29 AB
Calc. Nit. 2% + Chitosan 0%		0.36 hi	0.44 a-g	0.46 a-d	0.40 d-i	0.38 ghi	0.41 ABC		0.23 b	0.25 b	0.28 b	0.32 b	0.30 b	0.28 AB
Calc. Nit. 2% + Chitosan 0.5%		0.46 a-e	0.49 ab	0.40 c-i	0.38 ghi	0.34 i	0.42 AB		0.25 b	0.25 b	0.32 b	0.25 b	0.30 b	0.29 AB
Calc. Nit. 2% + Chitosan 1%		0.48 ab	0.51 a	0.42 b-h	0.38 f-i	0.40 d-i	0.44 A		0.25 b	0.25 b	0.28 b	0.28 b	0.30 b	0.27 AB
Calc. Nit. 4% + Chitosan 0%		0.40 d-i	0.42 b-h	0.40 d-i	0.38 f-i	0.40 d-i	0.40 B		0.25 b	0.25 b	0.45 a	0.25 b	0.28 b	0.30 A
Calc. Nit. 4% + Chitosan 0.5%		0.42 b-i	0.48 abc	0.44 a-g	0.35 hi	0.40 d-i	0.42 AB		0.25 b	0.25 b	0.25 b	0.25 b	0.28 b	0.26 B
Calc. Nit. 4% + Chitosan 1%		0.40 d-i	0.46 a-f	0.44 a-g	0.42 b-h	0.38 ghi	0.42 AB		0.25 b	0.25 b	0.38 b	0.30 b	0.30 b	0.30 A
Storage Per. av.		0.40 BC	0.46 A	0.42 B	0.40 BC	0.38 C		0.25 B	0.25 B	0.31 A	0.28 AB	0.30 A		

Means having same alphabetical letter(s) within each row and column did not significantly differ according to Duncan's multiple range test at 5% level. Capital letters are for main effects, while small letters for interaction means

Table 5: Effect of calcium nitrate and chitosan, cold storage periods and their interaction on Elmamoura guava Vit. C (%) of during in 2015 and 2016 seasons

Treatments	Zero	1 st season					Treat. av.	Zero	2 nd season					Treat. av.		
		Storage periods (days)							Storage periods (days)							
		15	22	29	36	43			15	22	29	36	43			
Calc. Nit. 0% + Chitosan 0%	122.3	106.00 a-d	100.00 b-e	106.00 a-d	101.67 b-e	68.40 g	96.41 B	117.8	96.67 fgh	94.00 fgh	98.00 e-h	98.00 e-h	92.00 fgh	95.73 C		
Calc. Nit. 0% + Chitosan 0.5%		100.00 b-e	124.00 a	102.00 b-e	100.00 b-e	82.27 efg			101.65 AB	102.67 c-h	92.00 fgh	114.00 c-h	94.00 fgh		101.33 d-h	100.80 ABC
Calc. Nit. 0% + Chitosan 1%		103.33 bcd	116.00 abc	98.00 cde	104.67 a-d	78.00 fg			100.00 AB	119.33 c-f	92.00 fgh	96.00 fgh	92.00 fgh		114.67 c-g	102.80 ABC
Calc. Nit. 2% + Chitosan 0%		107.33 a-d	92.00 def	108.00 a-d	120.00 ab	71.47 g			99.76 AB	130.67 bc	90.00 gh	97.00 fgh	94.00 fgh		90.00 gh	100.33 BC
Calc. Nit. 2% + Chitosan 0.5%		116.00 abc	108.00 a-d	106.00 a-d	103.00 bcd	97.90 c-f			106.18 AB	125.33 cde	96.00 fgh	98.00 e-h	102.00 d-h		96.00 fgh	103.47 ABC
Calc. Nit. 2% + Chitosan 1%		117.33 abc	108.00 a-d	112.00 a-d	100.00 b-e	105.60 a-d			108.59 A	163.67 a	98.00 e-h	94.00 fgh	110.67 c-h		100.00 d-h	113.27 A
Calc. Nit. 4% + Chitosan 0%		100.00 b-e	106.00 a-d	101.00 b-e	92.00 def	109.40 a-d			101.68 AB	114.67 c-g	98.00 e-h	106.00 c-h	92.00 fgh		91.00 gh	100.33 BC
Calc. Nit. 4% + Chitosan 0.5%		110.67 a-d	104.00 a-d	105.00 a-d	112.00 a-d	99.20 cde			106.17 AB	128.00 cd	102.00 d-h	98.00 e-h	94.00 fgh		94.00 fgh	103.20 ABC
Calc. Nit. 4% + Chitosan 1%		102.00 b-e	100.00 b-e	106.00 a-d	116.00 abc	107.20 a-d			106.24 AB	156.67 ab	98.00 e-h	110.00 c-h	86.00 h		111.33 c-h	112.40 AB
Storage Per. av.		106.96 A	106.44 A	104.89 A	105.48 A	91.05 B			126.41 A	95.56 B	101.22 B	95.85 B	98.93 B			

Means having same alphabetical letter(s) within each row and column did not significantly differ according to Duncan's multiple range test at 5% level. Capital letters are for main effects, while small letters for interaction means

Table 6: Effect of calcium nitrate and chitosan, cold storage periods and their interaction on Elmamoura guava (TSS%) during in 2015 and 2016 seasons

Treatments	Zero	1 st season					Treat. av.	Zero	2 nd season					Treat. av.
		Storage periods (days)							Storage periods (days)					
		15	22	29	36	43			15	22	29	36	43	
Calc. Nit. 0% + Chitosan 0%	10.0	12.00 hi	11.80 i	11.80 i	12.43 d-i	12.40 e-i	12.08 D	9.0	12.00 a-d	12.16 abc	12.33 abc	12.00 a-d	13.00 a	12.30 A
Calc. Nit. 0% + Chitosan 0.5%		12.00 hi	12.26 ghi	12.26 ghi	12.20 hi	12.20 hi	12.18 D		11.00 d	12.13 abc	12.26 abc	12.00 a-d	12.60 abc	12.00 A
Calc. Nit. 0% + Chitosan 1%		12.40 e-i	12.20 hi	12.20 hi	13.66 bc	12.63 c-i	12.62 C		11.50 cd	12.33 abc	12.00 a-d	12.16 abc	12.20 abc	12.04 A
Calc. Nit. 2% + Chitosan 0%		12.00 hi	13.53 bcd	13.53 bcd	12.46 d-i	13.06 b-h	12.92 AB		12.00 a-d	12.00 a-d	12.00 a-d	12.70 ab	12.66 ab	12.27 A
Calc. Nit. 2% + Chitosan 0.5%		12.56 c-i	13.36 b-g	13.36 b-g	12.20 hi	12.73 c-i	12.84 ABC		11.90 a-d	12.26 abc	12.00 a-d	12.40 abc	12.40 abc	12.19 A
Calc. Nit. 2% + Chitosan 1%		12.36 f-i	12.26 ghi	12.26 ghi	12.20 hi	12.40 e-i	12.30 D		12.53 abc	12.53 abc	12.00 a-d	12.00 a-d	12.00 a-d	12.21 A
Calc. Nit. 4% + Chitosan 0%		11.80 i	13.50 b-e	13.50 b-e	12.40 e-i	12.40 e-i	12.72 BC		11.83 bcd	12.40 abc	12.16 abc	12.46 abc	12.60 abc	12.29 A
Calc. Nit. 4% + Chitosan 0.5%		14.80 a	12.46 d-i	12.46 d-i	12.33 f-i	13.40 b-f	13.09 A		11.86 bcd	13.00 a	12.00 a-d	12.90 ab	12.80 ab	12.51 A
Calc. Nit. 4% + Chitosan 1%		14.00 ab	12.76 c-i	12.76 c-i	12.46 d-i	12.40 e-i	12.88 ABC		12.70 ab	12.00 a-d	12.33 abc	12.00 a-d	13.00 a	12.40 A
Storage Per. av.		12.65 A	12.68 A	12.68 A	12.48 A	12.62 A		11.92 C	12.31 AB	12.12 BC	12.29 AB	12.58 A		

Means having same alphabetical letter(s) within each row and column did not significantly differ according to Duncan's multiple range test at 5% level. Capital letters are for main effects, while small letters for interaction means