

Table 1. Effect of vapor gard, CaCl₂ or its combination as a pre-storage treatments on loss percentage of Navel orange fruits stored for different periods at various temperatures during 2003- 2004 and 2004-2005 seasons

Temp.	Treatments	1 st season (2003 – 2004)						2 nd season (2004 – 2005).					
		Storage period (days)						Storage period (days)					
		0	15	30	45	60	Mean (AC)	0	15	30	45	60	Mean (AC)
2 ° C	Control	0.000	1.729	4.728	5.867	8.328	4.130	0.000	2.168	3.383	6.130	8.065	3.949
	Vapor gard (2%)	0.000	0.864	2.515	3.221	5.163	2.353	0.000	1.335	1.833	3.860	5.219	2.449
	CaCl ₂ (4%)	0.000	1.441	4.018	5.163	7.156	3.556	0.000	2.570	3.577	6.381	8.876	4.281
	Vapor gard + CaCl ₂	0.000	0.845	2.246	2.854	4.479	2.085	0.000	0.884	1.506	2.958	4.020	1.874
	Mean (AB)	0.000	1.220	3.377	4.276	6.282	3.031	0.000	1.739	2.575	4.832	6.545	3.138
8 ° C	Control	0.000	2.298	6.421	9.063	15.44	6.644	0.000	2.327	3.826	7.736	9.985	4.775
	Vapor gard (2%)	0.000	1.583	4.594	6.36	11.21	4.749	0.000	1.385	2.129	4.520	6.062	2.819
	CaCl ₂ (4%)	0.000	2.281	6.423	9.139	15.13	6.595	0.000	2.640	4.067	9.163	11.870	5.548
	Vapor gard + CaCl ₂	0.000	1.511	4.319	5.918	11.86	4.722	0.000	1.362	1.800	4.437	5.925	2.705
	Mean (AB)	0.00	1.920	5.440	7.620	13.410	5.678	0.000	1.929	2.956	6.464	8.461	3.962
2° + 8 ° C	Control	0.000	1.711	1.526	7.364	14.110	4.942	0.000	2.422	2.530	7.846	10.110	4.582
	Vapor gard (2%)	0.000	5.095	4.845	5.026	9.117	4.817	0.000	3.823	3.869	5.293	6.799	3.957
	CaCl ₂ (4%)	0.000	0.859	0.893	7.861	13.880	4.699	0.000	1.385	0.962	8.126	10.070	4.109
	Vapor gard + CaCl ₂	0.000	3.060	2.985	5.279	10.060	4.277	0.000	2.198	1.833	4.805	6.388	3.045
	Mean (AB)	0.000	2.681	2.562	6.383	11.792	4.684	0.000	2.457	2.299	6.518	8.342	3.923
Mean (BC)	Mean (B)	0.000	1.940	3.793	6.093	10.494	Mean(C)	0.000	2.042	2.610	5.938	7.782	Mean(C)
	Control	0.000	1.913	4.225	7.431	12.630	5.240	0.000	2.306	3.247	7.237	9.387	4.435
	Vapor gard (2%)	0.000	2.514	3.985	4.869	8.495	3.973	0.000	2.181	2.610	4.558	6.027	3.075
	CaCl ₂ (4%)	0.000	1.527	3.778	7.388	12.06	4.951	0.000	2.199	2.868	7.890	10.270	4.645
	Vapor gard + CaCl ₂	0.000	1.805	3.184	4.683	8.797	3.694	0.000	1.482	1.713	4.066	5.444	2.541
L.S.D.	A	B	C	AB	AC	BC	ABC	A	B	C	AB	AC	BC
at 5 %	0.165	0.212	0.190	0.308	0.329	0.425	0.736	0.101	0.130	0.117	0.226	0.202	0.261
													0.452

Note: (A = Temperature, B = Storage periods, and C = Treatments)

Table 2. Effect of vapor gard, CaCl₂ or its combination as a pre-storage treatments on value (a/b*) for color of Navel orange fruits stored for different periods at various temperatures during 2003- 2004 and 2004-2005 seasons

Temp.	Treatments	1 st season (2003 – 2004)						2 nd season (2004 – 2005).					
		Storage period (days)						Storage period (days)					
		0	15	30	45	60	Mean (AC)	0	15	30	45	60	Mean (AC)
2 °C	Control	-0.24	-0.07	0.00	0.05	0.18	-0.02	-0.33	-0.21	-0.07	0.05	0.13	-0.09
	Vapor gard (2%)	-0.24	-0.07	0.03	0.05	0.15	-0.02	-0.33	-0.24	-0.20	-0.09	0.08	-0.16
	CaCl ₂ (4%)	-0.24	-0.04	0.01	0.06	0.17	-0.01	-0.33	-0.23	-0.16	-0.07	0.09	-0.14
	Vapor gard + CaCl ₂	-0.24	-0.02	0.03	0.10	0.18	0.01	-0.33	-0.25	-0.19	-0.17	0.10	-0.17
	Mean (AB)	-0.24	-0.05	0.02	0.07	0.17	-0.01	-0.33	-0.23	-0.15	-0.07	0.10	-0.14
8 °C	Control	-0.24	0.17	0.34	0.70	1.07	0.41	-0.33	0.07	0.40	0.53	0.73	0.28
	Vapor gard (2%)	-0.24	0.17	0.34	0.76	1.15	0.44	-0.33	-0.13	0.38	0.53	0.70	0.23
	CaCl ₂ (4%)	-0.24	0.19	0.29	0.68	0.95	0.37	-0.33	0.23	0.40	0.55	0.75	0.32
	Vapor gard + CaCl ₂	-0.24	0.20	0.38	0.75	1.01	0.42	-0.33	0.19	0.44	0.56	0.74	0.32
	Mean (AB)	-0.24	0.18	0.34	0.72	1.04	0.41	-0.33	0.09	0.41	0.54	0.73	0.29
2° + 8 °C	Control	-0.24	-0.07	-0.04	0.52	0.80	0.19	-0.33	-0.14	-0.18	0.29	0.50	0.03
	Vapor gard (2%)	-0.24	0.15	0.11	0.53	0.90	0.29	-0.33	0.01	-0.12	0.27	0.45	0.06
	CaCl ₂ (4%)	-0.24	-0.06	-0.03	0.54	0.80	0.20	-0.33	-0.23	-0.21	0.26	0.50	-0.002
	Vapor gard + CaCl ₂	-0.24	0.13	0.16	0.62	0.95	0.32	-0.33	-0.23	-0.20	0.29	0.48	0.002
	Mean (AB)	-0.24	0.04	0.05	0.55	0.86	0.25	-0.33	-0.15	-0.18	0.28	0.48	0.02
Mean (BC)	Mean (B)	-0.24	0.06	0.14	0.45	0.69	Mean(C)	-0.33	-0.08	0.03	0.25	0.44	Mean(C)
	Control	-0.24	0.01	0.10	0.42	0.68	0.19	-0.33	-0.09	0.05	0.29	0.45	0.07
	Vapor gard (2%)	-0.24	0.08	0.16	0.45	0.73	0.24	-0.33	-0.12	0.02	0.24	0.41	0.04
	CaCl ₂ (4%)	-0.24	0.03	0.09	0.43	0.64	0.19	-0.33	-0.08	0.01	0.25	0.45	0.06
	Vapor gard + CaCl ₂	-0.24	0.10	0.19	0.49	0.71	0.25	-0.33	-0.10	0.02	0.23	0.44	0.05
L.S.D. at 5 %	A	B	C	AB	AC	BC	ABC	A	B	C	AB	AC	BC ABC
	0.023	0.030	0.026	0.051	0.046	0.059	0.102	0.011	0.015	0.013	0.026	0.023	0.029 0.051

Note: (A = Temperature, B = Storage periods, and C = Treatments)

Table 3. Effect of vapor gard, CaCl₂ or its combination as a pre-storage treatments on peel puncture resistance (g/cm²) of Navel orange fruits stored for different periods at various temperatures during 2003- 2004 and 2004-2005 seasons

Temp.	Treatments	1 st season (2003 – 2004)						2 nd season (2004 – 2005).					
		Storage period (days)						Storage period (days)					
		0	15	30	45	60	Mean (AC)	0	15	30	45	60	Mean (AC)
2 °C	Control	203.0	196.7	192.9	189.9	182.9	193.1	203.8	190.5	183.2	170.9	153.7	180.4
	Vapor gard (2%)	203.0	203.8	198.4	197.4	195.7	199.7	203.8	199.2	196.7	193.0	187.6	196.1
	CaCl ₂ (4%)	203.0	196.2	184.8	183.7	179.7	189.5	203.8	192.4	182.0	169.2	161.3	181.7
	Vapor gard + CaCl ₂	203.0	196.0	194.3	190.4	188.6	194.5	203.8	191.7	186.3	182.3	178.6	188.5
Mean (AB)		203.0	198.2	192.6	190.4	186.7	194.2	203.8	193.5	187.1	178.9	170.3	186.7
8 °C	Control	203.0	189.8	166.4	155.8	147.3	172.4	203.8	187.8	173.3	149.7	124.3	167.8
	Vapor gard (2%)	203.0	194.9	188.1	177.8	166.8	186.1	203.8	193.3	183.0	174.9	172.8	185.6
	CaCl ₂ (4%)	203.0	191.4	175.7	166.4	155.8	178.5	203.8	192.3	172.7	160.9	133.4	172.6
	Vapor gard + CaCl ₂	203.0	192.5	184.3	172.6	164.5	183.4	203.8	193.6	173.7	172.2	164.2	181.5
Mean (AB)		203.0	192.1	178.6	168.1	158.6	180.1	203.8	191.8	175.7	164.4	148.7	176.9
2° + 8 °C	Control	203.0	196.1	191.8	181.0	171.3	188.6	203.8	188.2	192.7	162.0	129.0	175.1
	Vapor gard (2%)	203.0	192.3	184.9	185.0	180.7	189.2	203.8	180.2	180.2	186.9	178.2	185.9
	CaCl ₂ (4%)	203.0	199.9	194.9	178.4	170.8	189.4	203.8	199.3	189.4	168.1	148.9	181.9
	Vapor gard + CaCl ₂	203.0	194.7	192.1	184.6	179.5	190.8	203.8	194.9	182.8	180.0	169.7	186.2
Mean (AB)		203.0	195.8	190.9	182.2	175.6	189.5	203.8	190.7	186.3	174.3	156.5	182.3
Mean (B)		203.0	195.4	187.4	180.2	173.6	Mean(C)	203.8	192.0	183.0	172.5	158.5	Mean(C)
Mean (BC)	Control	203.0	194.2	183.7	175.5	167.2	184.7	203.8	188.8	183.1	160.9	135.7	174.5
	Vapor gard (2%)	203.0	197.0	190.5	186.7	188.1	193.1	203.8	190.9	186.6	184.9	179.5	189.1
	CaCl ₂ (4%)	203.0	195.8	185.2	176.2	168.7	185.8	203.8	194.7	181.4	166.1	147.9	178.8
	Vapor gard + CaCl ₂	203.0	194.4	190.3	182.5	177.5	189.5	203.8	193.4	180.9	178.2	170.8	185.4
L.S.D.	A	B	C	AB	AC	BC	ABC	A	B	C	AB	AC	BC
at 5 %	1.121	1.447	1.294	2.506	2.241	2.893	5.011	1.683	2.173	1.944	3.764	3.366	4.346
													7.528

Note: (A = Temperature, B = Storage periods, and C = Treatments)

Table 4. Effect of vapor gard, CaCl₂ or its combination as a pre-storage treatments on juice percentage of Navel orange fruits stored for different periods at various temperatures during 2003- 2004 and 2004-2005 seasons

Temp.	Treatments	1 st season (2003 – 2004)						2 nd season (2004 – 2005).						
		Storage period (days)						Storage period (days)						
		0	15	30	45	60	Mean (AC)	0	15	30	45	60	Mean (AC)	
2 ° C	Control	46.75	49.52	50.73	53.69	54.11	50.96	45.08	49.49	49.96	48.68	51.41	48.92	
	Vapor gard (2%)	46.75	49.07	48.04	51.12	52.67	49.53	45.08	46.57	47.90	47.79	47.94	47.06	
	CaCl ₂ (4%)	46.75	50.10	48.49	52.86	52.76	50.19	45.08	48.82	48.58	48.44	51.44	48.47	
	Vapor gard + CaCl ₂	46.75	49.07	49.29	52.49	54.96	50.51	45.08	46.53	46.65	48.02	49.50	47.16	
	Mean (AB)	46.75	49.44	49.14	52.54	53.63	50.30	45.08	47.85	48.27	48.23	50.07	47.90	
8 ° C	Control	46.75	58.16	56.99	58.95	62.98	56.77	45.08	54.95	58.13	58.29	61.05	55.50	
	Vapor gard (2%)	46.75	53.22	53.41	60.35	60.45	54.84	45.08	49.70	55.22	51.12	58.72	51.97	
	CaCl ₂ (4%)	46.75	54.06	55.47	55.40	63.21	54.98	45.08	49.02	53.91	51.75	61.86	52.32	
	Vapor gard + CaCl ₂	46.75	48.18	50.22	51.46	61.36	51.59	45.08	51.65	57.27	57.31	59.24	54.11	
	Mean (AB)	46.75	53.41	54.02	56.54	62.00	54.54	45.08	51.33	56.13	54.62	60.22	53.48	
2° + 8 ° C	Control	46.75	52.08	50.65	55.15	61.28	53.18	45.08	49.67	49.08	51.23	52.51	49.51	
	Vapor gard (2%)	46.75	52.54	50.02	52.95	55.65	51.58	45.08	50.8	50.58	49.92	50.81	49.44	
	CaCl ₂ (4%)	46.75	49.31	49.10	53.10	57.10	51.07	45.08	47.12	46.89	51.30	51.98	48.47	
	Vapor gard + CaCl ₂	46.75	49.25	49.99	55.70	42.17	48.77	45.08	49.27	48.54	50.04	50.31	48.65	
	Mean (AB)	46.75	50.80	49.94	54.23	54.05	51.15	45.08	49.22	48.77	50.62	51.40	49.02	
Mean (BC)	Mean (B)	46.75	51.21	51.03	54.44	56.56	Mean(C)	45.08	49.47	51.06	51.16	53.90	Mean(C)	
	Control	46.75	53.25	52.79	55.93	59.46	53.64	45.08	51.37	52.39	52.74	54.99	51.31	
	Vapor gard (2%)	46.75	51.61	50.49	54.81	56.26	51.98	45.08	49.02	51.23	49.61	52.49	49.49	
	CaCl ₂ (4%)	46.75	51.16	51.02	53.79	57.69	52.08	45.08	48.32	49.79	50.49	55.10	49.76	
	Vapor gard + CaCl ₂	46.75	48.83	49.83	53.22	52.83	50.29	45.08	49.15	50.82	51.79	53.02	49.97	
L.S.D.	A	B	C	AB	AC	BC	ABC	A	B	C	AB	AC	BC	ABC
at 5 %	1.430	1.845	1.651	3.196	2.859	3.691	6.393	0.346	0.447	0.399	0.773	0.692	0.893	1.547

Note: (A = Temperature, B = Storage periods, and C = Treatments)

Table 5. Effect of vapor gard, CaCl₂ or its combination as a pre-storage treatments on TSS/Acid ratio of Navel orange fruits stored for different periods at various temperatures during 2003- 2004 and 2004-2005 seasons

Temp.	Treatments	1 st season (2003 – 2004)						2 nd season (2004 – 2005).					
		Storage period (days)						Storage period (days)					
		0	15	30	45	60	Mean (AC)	0	15	30	45	60	Mean (AC)
2 ° C	Control	8.30	9.51	10.89	10.73	12.65	10.42	7.81	9.55	11.54	11.45	12.04	10.48
	Vapor gard (2%)	8.30	10.24	10.95	11.22	12.37	10.62	7.81	8.95	10.88	10.51	12.16	10.06
	CaCl ₂ (4%)	8.30	9.22	10.49	11.39	13.42	10.56	7.81	9.09	11.23	11.60	12.80	10.51
	Vapor gard + CaCl ₂	8.30	10.30	10.03	12.49	16.34	11.49	7.81	8.54	10.70	10.34	11.86	9.85
Mean (AB)		8.30	9.82	10.59	11.46	13.70	10.77	7.81	9.03	11.09	10.98	12.22	10.22
8 ° C	Control	8.30	9.76	11.60	13.72	17.10	12.10	7.81	11.19	13.63	13.61	18.82	13.01
	Vapor gard (2%)	8.30	10.78	11.51	14.05	16.51	12.23	7.81	9.94	12.34	12.81	17.84	12.15
	CaCl ₂ (4%)	8.30	10.64	13.73	14.39	16.20	12.65	7.81	12.10	13.50	14.09	18.31	13.16
	Vapor gard + CaCl ₂	8.30	10.80	13.30	14.03	16.32	12.55	7.81	10.81	13.26	13.05	17.82	12.55
Mean (AB)		8.30	10.50	12.54	14.05	16.53	12.38	7.81	11.01	13.18	13.39	18.20	12.72
2° + 8 ° C	Control	8.30	9.57	9.41	13.51	15.52	11.26	7.81	10.55	9.68	13.73	15.02	11.36
	Vapor gard (2%)	8.30	10.33	10.52	12.42	13.45	11.00	7.81	12.05	11.77	12.88	13.71	11.64
	CaCl ₂ (4%)	8.30	10.16	9.90	13.10	15.27	11.35	7.81	9.92	9.74	13.52	14.42	11.08
	Vapor gard + CaCl ₂	8.30	11.06	10.82	12.71	13.60	11.30	7.81	11.16	11.11	13.90	15.30	11.86
Mean (AB)		8.30	10.28	10.16	12.94	14.46	11.23	7.81	10.92	10.58	13.51	14.61	11.49
Mean (B)		8.30	10.20	11.10	12.81	14.90	Mean(C)	7.81	10.32	11.62	12.62	15.01	Mean(C)
Mean (BC)	Control	8.30	9.62	10.64	12.65	15.09	11.26	7.81	10.43	11.61	12.93	15.29	11.61
	Vapor gard (2%)	8.30	10.45	11.00	12.56	14.11	11.28	7.81	10.31	11.66	12.07	14.57	11.28
	CaCl ₂ (4%)	8.30	10.01	11.37	12.96	14.96	11.52	7.81	10.37	11.49	13.07	15.17	11.58
	Vapor gard + CaCl ₂	8.30	10.72	11.38	13.08	15.42	11.78	7.81	10.17	11.69	12.43	14.99	11.42
L.S.D.	A	B	C	AB	AC	BC	ABC	A	B	C	AB	AC	BC
at 5 %	0.262	0.339	0.303	0.303	0.524	0.677	1.173	0.172	0.223	0.199	0.384	0.344	0.444
													0.769

Note: (A = Temperature, B = Storage periods, and C = Treatments)

Table 6. Effect of vapor gard, CaCl₂ or its combination as a pre-storage treatments on ascorbic acid (mg/100 ml juice) of Navel orange fruits stored for different periods at various temperatures during 2003- 2004 and 2004-2005 seasons

Temp.	Treatments	1 st season (2003 – 2004)						2 nd season (2004 – 2005).					
		Storage period (days)						Storage period (days)					
		0	15	30	45	60	Mean (AC)	0	15	30	45	60	Mean (AC)
2 ° C	Control	97.00	93.10	88.65	84.67	80.62	88.81	75.00	71.30	59.00	55.43	49.50	62.05
	Vapor gard (2%)	97.00	96.92	94.42	92.06	88.86	93.85	75.00	70.28	65.25	57.04	51.62	63.84
	CaCl ₂ (4%)	97.00	93.33	90.35	88.69	84.00	90.67	75.00	70.56	65.25	55.31	50.17	63.26
	Vapor gard + CaCl ₂	97.00	95.44	91.01	90.44	86.14	92.01	75.00	71.67	65.33	55.58	50.92	63.70
Mean (AB)		97.00	94.70	91.11	88.97	84.91	91.34	75.00	70.95	63.71	55.84	50.55	63.21
8 ° C	Control	97.00	87.92	82.98	80.48	78.81	85.44	75.00	61.67	52.72	45.19	42.38	55.39
	Vapor gard (2%)	97.00	92.44	89.82	87.02	83.33	89.92	75.00	67.33	59.44	52.10	48.38	60.45
	CaCl ₂ (4%)	97.00	90.13	83.68	83.21	80.21	86.85	75.00	61.50	55.35	47.22	42.95	56.40
	Vapor gard + CaCl ₂	97.00	90.56	88.67	86.55	82.28	89.01	75.00	65.50	55.74	47.78	45.57	57.92
Mean (AB)		97.00	90.26	86.29	84.32	81.16	87.80	75.00	64.00	55.81	48.07	44.82	57.54
2° + 8 ° C	Control	97.00	93.00	93.36	84.36	78.97	89.34	75.00	70.03	70.07	52.67	45.63	62.68
	Vapor gard (2%)	97.00	88.82	90.04	90.8	86.04	90.54	75.00	60.19	64.04	55.00	50.95	61.04
	CaCl ₂ (4%)	97.00	95.51	94.79	84.87	81.56	90.75	75.00	70.75	70.70	53.67	46.22	63.27
	Vapor gard + CaCl ₂	97.00	93.90	90.64	88.97	82.92	90.69	75.00	66.07	64.87	54.78	48.62	61.87
Mean (AB)		97.00	92.81	92.21	87.25	82.37	90.33	75.00	66.76	67.42	54.03	47.86	62.21
Mean (B)		97.00	92.59	89.87	86.84	82.81	Mean(C)	75.00	67.24	62.31	52.65	47.74	Mean(C)
Mean (BC)	Control	97.00	91.34	88.33	83.17	79.47	87.86	75.00	67.66	60.60	51.09	45.84	60.04
	Vapor gard (2%)	97.00	92.73	91.43	89.96	86.08	91.44	75.00	65.93	62.93	54.73	50.32	61.78
	CaCl ₂ (4%)	97.00	92.99	89.61	85.59	81.92	89.42	75.00	67.60	63.77	52.07	46.45	60.98
	Vapor gard + CaCl ₂	97.00	93.30	90.11	88.66	83.78	90.57	75.00	67.75	61.98	52.71	48.37	61.16
L.S.D.	A	B	C	AB	AC	BC	ABC	A	B	C	AB	AC	BC
at 5 %	0.927	1.197	1.071	2.073	1.854	2.394	4.147	0.833	1.076	0.962	1.863	1.667	2.152
													3.727

Note: (A = Temperature, B = Storage periods, and C = Treatments)

Table 7. Effect of vapor gard, CaCl₂ or its combination as a pre-storage treatments on sugar concentration of Navel orange fruits' peel and flesh (mg/g F. W.) stored for different periods at various temperatures during 2003- 2004 and 2004-2005 seasons

Temp.	Treatments	Peel						Flesh					
		Storage period (days)						Storage period (days)					
		0	15	30	45	60	Mean (AC)	0	15	30	45	60	Mean (AC)
2 °C	Control	29.60	34.06	46.25	63.57	50.75	44.85	34.20	40.63	51.24	68.15	49.84	48.81
	Vapor gard (2%)	29.60	30.14	45.02	59.67	41.15	41.12	34.20	41.85	49.57	63.41	49.35	47.68
	CaCl ₂ (4%)	29.60	35.01	53.21	81.22	54.44	50.70	34.20	44.21	57.25	66.98	51.16	50.76
	Vapor gard + CaCl ₂	29.60	35.44	52.68	74.43	53.95	49.22	34.20	42.84	56.46	67.57	49.38	50.09
	Mean (AB)	29.60	33.66	49.29	69.72	50.07	46.47	34.20	42.38	53.63	66.53	49.93	49.33
8 °C	Control	29.60	36.98	44.41	60.03	44.11	43.03	34.20	41.07	51.43	66.10	59.45	50.45
	Vapor gard (2%)	29.60	34.83	38.20	57.39	44.86	40.98	34.20	40.85	50.58	62.67	58.85	49.43
	CaCl ₂ (4%)	29.60	36.78	47.97	64.55	45.82	44.94	34.20	43.44	54.94	67.30	62.85	52.55
	Vapor gard + CaCl ₂	29.60	39.54	47.26	58.88	42.55	43.57	34.20	42.90	52.93	66.41	60.45	51.38
	Mean (AB)	29.60	37.03	44.46	60.21	44.34	43.13	34.20	42.07	52.47	65.62	60.40	50.95
2° + 8 °C	Control	29.60	29.69	37.97	53.63	38.39	37.86	34.20	35.11	51.27	69.18	54.21	48.79
	Vapor gard (2%)	29.60	35.86	40.88	44.78	32.39	36.70	34.20	35.57	46.00	65.63	53.50	46.98
	CaCl ₂ (4%)	29.60	33.89	47.42	59.52	42.51	42.59	34.20	37.17	58.41	70.94	60.74	52.29
	Vapor gard + CaCl ₂	29.60	35.85	44.65	55.13	36.09	40.26	34.20	37.62	52.26	69.61	58.93	50.52
	Mean (AB)	29.60	33.82	42.73	53.27	37.35	39.35	34.20	36.37	51.99	68.84	56.85	49.65
Mean (BC)	Mean (B)	29.60	34.84	45.49	61.07	43.92	Mean(C)	34.20	40.27	52.70	67.00	55.73	Mean(C)
	Control	29.60	33.58	42.88	59.07	44.42	41.91	34.20	38.94	51.31	67.81	54.50	49.35
	Vapor gard (2%)	29.60	33.61	41.37	53.95	39.47	39.60	34.20	39.42	48.72	63.90	53.90	48.03
	CaCl ₂ (4%)	29.60	35.23	49.53	68.43	47.59	46.08	34.20	41.61	56.86	68.40	58.25	51.86
	Vapor gard + CaCl ₂	29.60	36.94	48.20	62.81	44.20	44.35	34.20	41.12	53.88	67.86	56.25	50.66
L.S.D.	A	B	C	AB	AC	BC	ABC	A	B	C	AB	AC	BC
at 5 %	1.606	2.073	1.855	3.591	3.212	4.147	7.183	1.393	1.799	1.609	3.116	2.787	3.598
													6.232

Note: (A = Temperature, B = Storage periods, and C = Treatments)

Table 8. Effect of vapor gard, CaCl₂ or its combination as a pre-storage treatments on total soluble phenols concentration of Navel orange fruits' peel and flesh (mg/g F. W.) stored for different periods at various temperatures during 2003- 2004 and 2004-2005 seasons

Temp.	Treatments	Peel						Flesh					
		Storage period (days)						Storage period (days)					
		0	15	30	45	60	Mean (AC)	0	15	30	45	60	Mean (AC)
2 ° C	Control	1.30	2.31	2.53	2.9	3.38	2.48	0.15	0.38	0.47	0.76	0.90	0.53
	Vapor gard (2%)	1.30	1.63	1.88	2.33	2.71	1.97	0.15	0.16	0.23	0.39	0.58	0.30
	CaCl ₂ (4%)	1.30	2.05	2.25	2.73	3.05	2.28	0.15	0.28	0.38	0.60	0.80	0.44
	Vapor gard + CaCl ₂	1.30	1.76	1.99	2.31	2.79	2.03	0.15	0.22	0.27	0.49	0.65	0.36
	Mean (AB)	1.30	1.94	2.16	2.57	2.98	2.19	0.15	0.26	0.34	0.56	0.73	0.41
8 ° C	Control	1.30	2.45	3.10	3.27	3.75	2.77	0.15	0.83	0.93	1.04	1.32	0.85
	Vapor gard (2%)	1.30	1.67	2.16	2.55	3.06	2.15	0.15	0.45	0.57	0.71	0.75	0.53
	CaCl ₂ (4%)	1.30	2.11	2.77	2.91	3.31	2.48	0.15	0.62	0.80	0.90	1.27	0.75
	Vapor gard + CaCl ₂	1.30	2.03	2.44	2.62	3.17	2.31	0.15	0.59	0.67	0.85	0.94	0.64
	Mean (AB)	1.30	2.07	2.62	2.84	3.32	2.43	0.15	0.62	0.74	0.88	1.07	0.69
2° + 8 ° C	Control	1.30	2.18	2.68	2.88	3.32	2.47	0.15	0.33	0.51	0.81	1.05	0.57
	Vapor gard (2%)	1.30	1.61	1.87	2.20	2.88	1.97	0.15	0.16	0.25	0.49	0.63	0.34
	CaCl ₂ (4%)	1.30	1.97	2.46	2.57	3.15	2.29	0.15	0.21	0.45	0.73	0.86	0.48
	Vapor gard + CaCl ₂	1.30	1.84	2.35	2.47	3.07	2.21	0.15	0.18	0.37	0.65	0.74	0.42
	Mean (AB)	1.30	1.90	2.34	2.53	3.11	2.24	0.15	0.22	0.40	0.67	0.82	0.45
Mean (BC)	Mean (B)	1.30	1.97	2.37	2.65	3.14	Mean(C)	0.15	0.37	0.49	0.70	0.87	Mean(C)
	Control	1.30	2.31	2.77	3.01	3.48	2.57	0.15	0.51	0.64	0.87	1.09	0.65
	Vapor gard (2%)	1.30	1.64	1.97	2.36	2.88	2.03	0.15	0.26	0.35	0.53	0.65	0.39
	CaCl ₂ (4%)	1.30	2.04	2.49	2.74	3.17	2.35	0.15	0.37	0.55	0.74	0.98	0.56
	Vapor gard + CaCl ₂	1.30	1.88	2.26	2.46	3.01	2.18	0.15	0.33	0.43	0.66	0.78	0.47
L.S.D.	A	B	C	AB	AC	BC	ABC	A	B	C	AB	AC	BC
at 5 %	0.096	0.124	0.111	0.214	0.191	0.247	0.428	0.034	0.044	0.04	0.077	0.069	0.089
													0.153

Note: (A = Temperature, B = Storage periods, and C = Treatments)

Table 9. Effect of vapor gard, CaCl₂ or its combination as a pre-storage treatments on total free amino acids concentration of Navel orange fruits' peel and flesh (mg/g F. W.) stored for different periods at various temperatures during 2003- 2004 and 2004-2005 seasons

Temp.	Treatments	Peel						Flesh					
		Storage period (days)						Storage period (days)					
		0	15	30	45	60	Mean (AC)	0	15	30	45	60	Mean (AC)
2 °C	Control	5.30	6.90	8.93	10.93	12.20	8.85	5.60	6.53	9.13	10.10	12.57	8.79
	Vapor gard (2%)	5.30	5.97	7.07	8.57	11.17	7.62	5.60	6.20	7.90	9.53	10.70	7.99
	CaCl ₂ (4%)	5.30	7.77	10.40	11.60	13.03	9.62	5.60	8.03	10.37	11.30	13.57	9.77
	Vapor gard + CaCl ₂	5.30	6.17	8.30	10.40	11.77	8.39	5.60	6.63	8.47	9.83	12.07	8.52
8 °C	Mean (AB)	5.30	6.70	8.68	10.38	12.04	8.62	5.60	6.85	8.97	10.19	12.23	8.77
	Control	5.30	6.70	8.47	10.93	14.13	9.11	5.60	8.00	9.33	13.57	16.57	10.61
	Vapor gard (2%)	5.30	6.10	8.00	10.20	12.47	8.41	5.60	6.90	8.47	12.03	15.57	9.71
	CaCl ₂ (4%)	5.30	7.17	9.03	11.53	14.93	9.59	5.60	8.67	11.80	14.70	17.90	11.73
2° + 8 °C	Vapor gard + CaCl ₂	5.30	6.53	7.97	10.47	13.33	8.72	5.60	7.13	8.57	12.80	15.90	10.00
	Mean (AB)	5.30	6.63	8.37	10.78	13.72	8.96	5.60	7.68	9.54	13.28	16.49	10.52
	Control	5.30	7.03	8.13	10.03	11.43	8.38	5.60	7.03	9.60	10.70	12.87	9.16
	Vapor gard (2%)	5.30	6.17	7.00	8.87	10.53	7.57	5.60	6.37	8.53	9.00	11.93	8.29
Mean (BC)	CaCl ₂ (4%)	5.30	7.40	8.27	11.57	12.93	9.09	5.60	9.47	10.33	11.03	13.93	10.07
	Vapor gard + CaCl ₂	5.30	6.40	7.90	9.30	11.03	7.99	5.60	8.57	9.60	10.23	12.50	9.30
	Mean (AB)	5.30	6.75	7.83	9.94	11.48	8.26	5.60	7.86	9.52	10.24	12.81	9.20
	Mean (B)	5.30	6.69	8.29	10.37	12.41	Mean(C)	5.60	7.46	9.34	11.24	13.84	Mean(C)
L.S.D.	Control	5.30	6.88	8.51	10.63	12.59	8.78	5.60	7.19	9.36	11.46	14.00	9.52
	Vapor gard (2%)	5.30	6.08	7.36	9.21	11.39	7.87	5.60	6.49	8.30	10.19	12.73	8.66
	CaCl ₂ (4%)	5.30	7.44	9.23	11.57	13.36	9.38	5.60	8.72	10.83	12.34	15.13	10.52
	Vapor gard + CaCl ₂	5.30	6.37	8.06	10.06	12.04	8.37	5.60	7.44	8.88	10.96	13.49	9.27
L.S.D.	A	B	C	AB	AC	BC	ABC	A	B	C	AB	AC	BC
at 5 %	0.531	0.686	0.613	1.188	1.062	1.372	2.376	0.469	0.605	0.541	1.048	0.937	1.210
													2.095

Note: (A = Temperature, B = Storage periods, and C = Treatments)

Table 10. Effect of vapor gard, CaCl₂ or its combination as a pre-storage treatments on proline concentration of Navel orange fruits peel and flesh (mg / 100 g F. W.) stored for different periods at various temperatures during 2003- 2004 and 2004-2005 seasons

Temp.	Treatments	Peel						Flesh					
		Storage period (days)						Storage period (days)					
		0	15	30	45	60	Mean (AC)	0	15	30	45	60	Mean (AC)
2 °C	Control	3.20	4.50	7.80	16.43	12.83	8.95	2.00	7.20	12.00	13.90	16.20	10.26
	Vapor gard (2%)	3.20	7.00	8.30	16.20	12.30	9.40	2.00	3.07	4.90	21.53	17.80	9.86
	CaCl ₂ (4%)	3.20	6.90	8.60	23.10	19.90	12.34	2.00	6.73	13.80	23.23	17.03	12.56
	Vapor gard + CaCl ₂	3.20	4.40	4.73	14.60	10.90	7.57	2.00	5.13	6.50	16.30	12.60	8.51
Mean (AB)		3.20	5.70	7.36	17.58	13.98	9.57	2.00	5.53	9.30	18.74	15.91	10.30
8 °C	Control	3.20	3.70	8.20	10.50	7.83	6.69	2.00	2.33	11.43	8.60	19.43	8.76
	Vapor gard (2%)	3.20	1.50	5.73	7.80	6.73	4.99	2.00	2.40	7.30	8.00	24.50	8.84
	CaCl ₂ (4%)	3.20	3.30	11.60	12.10	10.03	8.05	2.00	3.10	14.60	10.13	17.43	9.45
	Vapor gard + CaCl ₂	3.20	5.90	10.30	12.20	8.40	8.00	2.00	3.70	18.30	14.53	16.83	11.07
Mean (AB)		3.20	3.60	8.96	10.65	8.25	6.93	2.00	2.88	12.91	10.32	19.55	9.53
2° + 8 °C	Control	3.20	7.63	11.70	12.10	8.60	8.65	2.00	7.37	9.53	14.10	13.33	9.27
	Vapor gard (2%)	3.20	4.00	5.10	6.90	4.63	4.77	2.00	3.93	10.30	12.60	11.40	8.05
	CaCl ₂ (4%)	3.20	7.40	36.23	14.90	13.60	15.07	2.00	4.33	14.60	13.73	13.30	9.59
	Vapor gard + CaCl ₂	3.20	4.00	9.90	14.70	10.70	8.50	2.00	2.93	9.10	16.00	13.33	8.67
Mean (AB)		3.20	5.76	15.73	12.15	9.38	9.25	2.00	4.64	10.88	14.11	12.84	8.89
Mean (B)		3.20	5.02	10.68	13.46	10.54	Mean(C)	2.00	4.35	11.03	14.39	16.10	Mean(C)
Mean (BC)	Control	3.20	5.28	9.23	13.01	9.76	8.10	2.00	5.63	10.99	12.20	16.32	9.43
	Vapor gard (2%)	3.20	4.17	6.38	10.30	7.89	6.39	2.00	3.13	7.50	14.04	17.90	8.91
	CaCl ₂ (4%)	3.20	5.87	18.81	16.70	14.51	11.82	2.00	4.72	14.33	15.70	15.92	10.53
	Vapor gard + CaCl ₂	3.20	4.77	8.31	13.83	10.00	8.02	2.00	3.92	11.30	15.61	14.26	9.42
L.S.D.	A	B	C	AB	AC	BC	ABC	A	B	C	AB	AC	BC
at 5 %	0.858	1.107	0.991	1.918	1.716	2.215	3.836	0.856	1.105	0.988	1.913	1.711	2.209
													3.826

Note: (A = Temperature, B = Storage periods, and C = Treatments)

Table 11. Effect of vapor gard, CaCl₂ or its combination as a pre-storage treatments on Calcium concentration (mg/g D.W.) of Navel orange fruits peel and flesh stored for different periods at various temperatures during 2003- 2004 and 2004-2005 seasons

Temp.	Treatments	Peel						Flesh					
		Storage period (days)						Storage period (days)					
		0	15	30	45	60	Mean (AC)	0	15	30	45	60	Mean (AC)
2 °C	Control	1.020	1.137	0.888	1.107	1.385	1.107	0.650	0.803	0.755	0.805	1.045	0.812
	Vapor gard (2%)	1.020	1.114	0.743	0.825	1.164	0.973	0.650	0.649	0.644	0.767	0.979	0.738
	CaCl ₂ (4%)	1.020	1.153	0.901	1.120	1.476	1.134	0.650	0.927	0.808	0.926	1.051	0.872
	Vapor gard + CaCl ₂	1.020	1.116	0.814	0.849	1.296	1.019	0.650	0.858	0.719	0.779	1.020	0.805
	Mean (AB)	1.020	1.130	0.837	0.975	1.330	1.058	0.650	0.809	0.732	0.819	1.024	0.807
8 °C	Control	1.020	1.201	1.059	1.292	1.424	1.199	0.650	1.067	0.897	1.204	1.241	1.012
	Vapor gard (2%)	1.020	1.124	0.896	1.170	1.219	1.086	0.650	0.968	0.827	1.089	1.194	0.946
	CaCl ₂ (4%)	1.020	1.225	1.084	1.506	1.765	1.320	0.650	1.079	0.926	1.301	1.412	1.074
	Vapor gard + CaCl ₂	1.020	1.147	1.044	1.287	1.364	1.172	0.650	1.044	0.883	1.181	1.237	0.999
	Mean (AB)	1.020	1.174	1.021	1.314	1.443	1.194	0.650	1.040	0.883	1.194	1.271	1.008
2° + 8 ° C	Control	1.020	1.181	0.925	1.138	1.389	1.131	0.650	0.853	0.782	0.852	1.183	0.864
	Vapor gard (2%)	1.020	1.021	0.772	0.955	1.193	0.992	0.650	0.805	0.722	0.774	1.063	0.803
	CaCl ₂ (4%)	1.020	1.201	1.027	1.285	1.488	1.204	0.650	0.932	0.895	0.932	1.237	0.929
	Vapor gard + CaCl ₂	1.020	1.128	0.870	1.024	1.303	1.069	0.650	0.828	0.792	0.833	1.142	0.849
	Mean (AB)	1.020	1.133	0.899	1.101	1.343	1.099	0.650	0.855	0.798	0.848	1.156	0.861
Mean (BC)	Mean (B)	1.020	1.146	0.919	1.130	1.372	Mean(C)	0.650	0.901	0.804	0.954	1.150	Mean(C)
	Control	1.020	1.173	0.957	1.179	1.400	1.146	0.650	0.908	0.811	0.954	1.156	0.896
	Vapor gard (2%)	1.020	1.086	0.804	0.983	1.192	1.017	0.650	0.807	0.731	0.876	1.079	0.829
	CaCl ₂ (4%)	1.020	1.193	1.004	1.303	1.576	1.219	0.650	0.979	0.876	1.053	1.233	0.958
	Vapor gard + CaCl ₂	1.020	1.130	0.909	1.053	1.321	1.087	0.650	0.910	0.798	0.931	1.133	0.884
L.S.D.	A	B	C	AB	AC	BC	ABC	A	B	C	AB	AC	BC ABC
at 5 %	0.055	0.071	0.063	0.123	0.110	0.142	0.245	0.047	0.061	0.054	0.105	0.094	0.122 0.211

Note: (A = Temperature, B = Storage periods, and C = Treatments)