

Table 1: Effect of some packaging treatments, cold storage periods and their interactions on chilling injury index (CII) and fruit decay % (FD %) of Balady lime fruits after cold storage periods (2010 and 2011 seasons).

Storage period (days)	Chilling injury index*					Fruit decay %				
	30	60	90	105	Mean	30	60	90	105	Mean
Packaging treatment: Fruits were packed in:	<i>1st Season</i>									
Plastic nets (Control)	2.87e	4.21c	5.00b	7.17a	4.81A	0.00i	19.50fg	35.40cd	41.80b	24.18C
Perforated 0.08% polyethylene bags	0.00h	0.00h	2.00f	3.60d	1.40D	0.00i	5.50hi	23.53ef	25.97e	13.75D
Perforated 0.008% polye. bags	0.00h	0.52gh	0.93g	1.70f	0.79E	0.00i	15.33g	17.13g	25.83e	14.58D
Sealed foam plate by polye. stretch	0.00h	1.70f	2.23f	3.57d	1.87C	7.93h	19.93fg	34.80d	44.50b	26.79B
Sealed carton boxes by polye. Bags**	0.00h	3.20de	4.40c	7.57a	3.79B	0.00i	23.53ef	40.33bc	100a	40.97A
Mean	0.57D	1.93C	2.91B	4.72A	-	1.59D	16.76C	30.24B	47.62A	-
	<i>2nd Season</i>									
Plastic nets (Control)	1.77ij	4.30d	5.57c	7.03b	4.67A	0.00j	3.57ij	25.70e	43.70b	18.24C
Perforated 0.08% polye. bags	0.00k	1.23j	2.03hi	2.80fg	1.52D	0.00j	10.47h	15.53g	23.87ef	12.47D
Perforated 0.008% polye. bags	0.00k	1.67ij	2.83fg	2.93fg	1.86C	0.00j	3.43ij	4.33i	21.07f	7.21E
Sealed foam plate by polye. stretch	0.00k	2.10hi	2.37gh	3.20ef	1.92C	3.63ij	15.47g	30.33d	41.00bc	22.61B
Sealed carton boxes by polye. Bags**	0.00k	3.57e	4.33d	7.80a	3.93B	0.00j	22.50ef	37.83c	100a	40.08A
Mean	0.35D	2.57C	3.43B	4.75A	-	0.73D	11.09C	22.75B	45.93A	-

Means within each column followed by the same letter (s) are not significantly different at 5% level.

* Chilling injury index (0=without decay; 2=spot decay; 4=25-50% decay; 8=>50 % decay).

**Fruits were packed in carton boxes at rate of 190±10 g fruits / liter.

Table 2: Effect of some packaging treatments, cold storage periods and their interactions on chilling injury index (CII) and fruit decay % (FD %) of Balady lime fruits after shelf life period (2010 and 2011 seasons).

Storage period (days)	Chilling injury index*				Fruit decay %			
	30	60	90	Mean	30	60	90	Mean
Packaging treatment: Fruits were packed in:	<i>1st Season</i>							
Plastic nets (Control)	0.00f	3.63c	5.97a	.20A	0.00f	0.00f	0.00f	0.00C
Perforated 0.08% polyethylene bags	0.00f	0.00f	0.23f	.073E	0.00f	0.00f	0.00f	0.00C
Perforated 0.008% polye. bags	0.00f	2.63d	2.77d	1.80C	0.00f	0.00f	0.00f	0.00C
Sealed foam plate by polye. stretch	0.00f	1.97e	2.17e	1.38D	0.00f	16.0d	23.4c	13.1B
Sealed carton boxes by polye. Bags**	0.00f	3.40c	5.17b	2.86B	6.70e	54.6b	65.7a	42.3A
Mean	0.00C	2.33B	3.26A	-	1.34C	14.1B	17.8A	-
	<i>2nd Season</i>							
Plastic nets (Control)	0.00f	3.57c	6.87a	3.48A	0.00f	0.00f	0.00f	0.00C
Perforated 0.08% polye. bags	0.00f	0.08f	0.17f	.083D	0.00f	0.00f	0.00f	0.00C
Perforated 0.008% polye. bags	0.00f	1.90e	2.47d	1.46D	0.00f	0.00f	0.00f	0.00C
Sealed foam plate by polye. stretch	0.00f	2.43d	2.73d	1.72C	0.00f	12.7d	19.7c	10.8B
Sealed carton boxes by polye. Bags**	0.00f	3.43c	5.13b	2.86B	5.23e	46.6b	55.4a	35.8A
Mean	0.00C	2.28B	3.47A	-	1.04C	11.9B	15.0A	-

Means within each column followed by the same letter (s) are not significantly different at 5% level.

* Chilling injury index (0=without decay; 2=spot decay; 4=25-50% decay; 8=>50 % decay).

** Fruits were packed in carton boxes at rate of 190±10 g fruits / liter.

Table 3: Effect of some packaging treatments, cold storage periods and their interactions on fruit weight loss % (FWL), peel color index (PCI) and pulp firmness (PF) of Balady lime fruits after cold storage periods (2010 and 2011 seasons).

Storage period (days)	Fruit weight loss %				Peel color index*				Pulp firmness (kg/cm ²)			
	30	60	90	Mean	30	60	90	Mean	30	60	90	Mean
Packaging treatment: Fruits were packed in:	<i>1st Season</i>											
Plastic nets (control)	18.6b	38.0a	36.3a	30.9A	2.33a	2.60a	3.33a	2.75C	1.36ab	1.55a	1.63a	1.51A
Perforated 0.08% polyethylene bags	1.25gh	4.17f	6.80e	3.78D	2.40a	3.00a	3.90a	3.10B	0.81de	0.77de	1.00cd	0.86B
Perforated 0.008% polye. bags	0.40h	3.17fg	5.53ef	2.46D	2.43a	3.40a	4.00a	3.28AB	1.22bc	0.81de	0.87de	0.97B
Sealed foam plate by polye.stretch	1.34gh	11.63c	13.0c	9.53B	2.60a	3.27a	3.90a	3.26AB	0.68de	0.75de	0.60e	0.68C
Sealed carton boxes by polye. Bags**	2.33g	8.53d	7.87de	6.24C	2.63a	3.43a	4.00a	3.36A	0.76de	0.98cd	0.89de	0.88B
Mean	4.77B	13.1A	13.9A	-	2.48C	3.14B	3.82A	-	0.97A	0.97A	1.00A	-
	<i>2nd Season</i>											
Plastic nets (control)	20.8b	41.3a	40.3a	34.1A	2.20f	2.53e	3.60bc	2.78B	1.18c	1.47b	1.70a	1.45A
Perforated 0.08% polye. bags	1.93gh	2.50gh	6.10ef	3.51D	2.43ef	3.70abc	3.97a	3.37A	0.77e-h	0.66h	1.08cd	0.84B
Perforated 0.008% polye. bags	0.73h	2.33gh	4.13fg	2.40D	2.63de	3.47c	4.00a	3.37A	0.96de	0.69gh	0.75fgh	0.80B
Sealed foam plate by polye. stretch	3.87fg	10.2cd	10.8c	8.28B	2.87d	3.43c	3.87ab	3.39A	0.87efg	0.77e-h	0.68gh	0.77B
Sealed carton boxes by polye. Bags**	2.10gh	7.93de	9.80cd	6.61C	2.57e	3.50c	4.00a	3.36A	0.86efg	0.93def	0.84e-h	0.88B
Mean	5.88C	12.8B	14.2A	-	2.54C	3.33B	3.89A	--	0.93B	0.90B	1.01A	

Means within each column followed by the same letter (s) are not significantly different at 5% level.

* 1 = 100 % green; 2 = < 25 % yellow; 3 = 26-50 % yellow and 4 = > 50 % yellow.

** Fruits were packed in carton boxes at rate of 190±10 g fruits / liter.

Table 4: Effect of some packaging treatments, cold storage periods and their interactions on fruit weight loss % (FWL), peel color index (PCI) and pulp firmness (PF) of Balady lime fruits after shelf life period (2010 and 2011 seasons).

Storage period (days)	Fruit weight loss %				Peel color index [±]				Pulp firmness (kg/cm ²)			
	30	60	90	Mean	30	60	90	Mean	30	60	90	Mean
Packaging treatment: Fruits were packed in:	<i>1st Season</i>											
Plastic nets (Control)	18.1cd	13.3fgh	16.0def	15.8B	2.73f	3.23d	3.43c	3.13C	1.03ef	0.93fg	1.00efg	0.99C
Perforated 0.08% polyethylene bags	16.0def	12.5gh	13.8e-h	14.1C	2.73f	3.77b	3.97ab	3.49B	0.95fg	1.31	1.13cde	1.13B
Perforated 0.008% polye. bags	12.1gh	11.6h	13.0fgh	12.3D	2.33g	3.90ab	4.00a	3.41B	1.21bcd	1.27bc	0.95fg	1.14B
Sealed foam plate by polye. stretch	24.2b	16.7de	20.1c	20.3A	2.53f	3.87ab	4.00a	3.47B	1.25bc	1.56a	1.34b	1.39A
Sealed carton boxes by polye. Bags**	13.1fgh	15.1d-g	29.9a	19.4A	3.00e	3.93ab	4.00a	3.64A	1.06def	0.92fg	0.86g	0.95C
Mean	16.7B	13.9C	18.6A	-	2.67C	3.74B	3.88A	-	1.10B	1.20A	1.06B	-
	<i>2nd Season</i>											
Plastic nets (Control)	19.7cd	12.8fg	18.1de	16.9B	2.80c	2.97c	3.43b	3.07B	1.02ef	0.86f	0.85f	0.91C
Perforated 0.08% polye. bags	15.7ef	13.4fg	11.8g	13.6C	2.73c	3.83a	4.00a	3.52A	0.89f	1.25bcd	1.11de	1.09B
Perforated 0.008% polye. bags	14.4fg	13.3fg	13.0fg	13.6C	2.73c	3.93a	4.00a	3.56A	1.28bc	1.32b	0.90f	1.17B
Sealed foam plate by polye. stretch	25.0b	21.5c	14.9f	20.5A	2.97c	3.93a	4.00a	3.63A	1.37b	1.70a	1.33b	1.47A
Sealed carton boxes by polye. Bags**	14.7f	19.1cd	31.8a	21.9A	2.77c	3.93a	4.00a	3.57A	1.14cde	0.98ef	0.86f	0.99C
Mean	17.9A	16.0B	17.9A	-	2.80C	3.72B	3.89A	-	1.14B	1.22A	1.01C	-

Means within each column followed by the same letter (s) are not significantly different at 5% level.

[±] 1 = 100 % green; 2 = < 25 % yellow; 3 = 26-50 % yellow and 4 = > 50 % yellow.

** Fruits were packed in carton boxes at rate of 190±10 g fruits / liter.

Table 5: Effect of some packaging treatments, cold storage periods and their interactions on juice and TSS percentages and vitamin C content of Balady lime fruits after cold storage periods (2010 and 2011 seasons).

Storage period (days)	Juice%				TSS%				Vit. C (mg/ 100 cm ³ juice)			
	30	60	90	Mean	30	60	90	Mean	30	60	90	Mean
Packaging treatment:	<i>1st Season</i>											
Fruits were packed in:												
Plastic nets (control)	33.4d	31.9d	38.4b	34.5A	9.10bc	10.4a	10.6a	10.0A	55.0a	36.8a	35.5a	42.4A
Perforated 0.08% polyethylene bags	25.9f	36.3c	38.1bc	33.4B	9.30bc	8.90c	9.03bc	9.07D	58.9a	42.7a	38.0a	46.6A
Perforated 0.008% polye. bags	26.1f	33.0d	39.8ab	33.0B	9.10bc	9.03bc	9.27bc	9.13CD	56.1a	41.8a	38.0a	45.3A
Sealed foam plate by polye. stretch	29.2e	32.3d	40.3a	33.9AB	9.47b	9.37bc	9.37bc	9.40B	56.7a	42.0a	38.0a	45.5A
Sealed carton boxes by polye. Bags*	25.5f	26.4f	28.6e	26.8C	9.23bc	9.33bc	9.47b	9.34BC	52.7a	44.8a	41.5a	46.3A
Mean	28.0C	32.0B	37.0A	-	9.24B	9.41AB	9.55A	-	55.9A	41.6B	38.2C	-
	<i>2nd Season</i>											
Plastic nets (control)	37.0b	32.7c	41.0a	36.9A	8.97g	10.1bc	10.8a	9.96A	57.2a	38.7cde	35.0e	43.6B
Perforated 0.08% polye. bags	29.0de	36.7b	40.6a	35.5B	9.37ef	9.07fg	9.83cd	9.42C	56.7a	38.6cde	35.5de	43.6B
Perforated 0.008% polye. bags	28.1def	31.7c	36.9b	32.2D	9.17efg	9.23efg	9.40ef	9.27C	56.1a	46.5b	38.0cde	46.9A
Sealed foam plate by polye. stretch	29.9d	32.7c	38.4b	33.6C	9.50de	9.47def	10.2bc	9.72B	56.7a	45.8b	40.0cd	47.5A
Sealed carton boxes by polye. Bags*	27.3ef	27.0f	28.6def	27.6E	9.27efg	9.50de	10.3b	9.68B	56.1a	41.4c	40.5c	46.0AB
Mean	30.2C	32.2B	37.1A	-	9.25C	9.47B	10.1A	-	56.6A	42.2B	37.8C	-

Means within each column followed by the same letter (s) are not significantly different at 5% level.

* Fruits were packed in carton boxes at rate of 190±10 g fruits / liter.

Table 6: Effect of some packaging treatments, cold storage periods and their interactions on juice and TSS percentages and vitamin C content of Balady lime fruits after shelf life period (2010 and 2011 seasons).

Storage period (days)	Juice%				TSS%				Vit. C (mg/ 100 cm ³ juice)			
	30	60	90	Mean	30	60	90	Mean	30	60	90	Mean
Packaging treatment: Fruits were packed in:	<i>1st Season</i>											
Plastic nets (Control)	28.4g	29.4g	37.0f	31.6C	10.2b	10.1b	10.8a	10.4A	39.7cde	35.8d-g	34.2efg	36.6C
Perforated 0.08% polyethylene bags	41.6de	42.5cde	47.4a	43.8A	9.37cd	9.10cd	8.83d	9.10C	47.3b	40.5cd	31.6g	39.8B
Perforated 0.008% polye. bags	44.3a-d	42.8b-e	45.6abc	44.2A	9.27cd	9.27cd	8.97cd	9.17C	39.7cde	38.7c-f	35.1d-g	37.8BC
Sealed foam plate by polye. stretch	45.1abc	40.4e	46.0ab	43.8A	10.0b	9.43c	9.93b	9.80B	53.9a	43.1bc	36.6d-g	44.5A
Sealed carton boxes by polye. Bags*	36.9f	37.5f	46.5a	40.3B	9.23cd	9.10cd	9.10cd	9.14C	35.6d-g	33.1fg	31.6g	33.4D
Mean	39.2B	38.5B	44.5A	-	9.62A	9.40A	9.52A	-	43.2A	38.2B	33.8C	-
	<i>2nd Season</i>											
Plastic nets (Control)	29.9h	30.5h	33.9g	31.4D	9.73c	9.47cd	11.0a	10.1A	36.7efg	35.7fgh	32.5h	35.0C
Perforated 0.08% polye. bags	35.5fg	38.3ef	45.9bc	39.9C	9.37de	9.23def	8.80g	9.13C	49.0b	40.1cde	33.8gh	41.0B
Perforated 0.008% polye. bags	40.3e	41.1de	50.2a	43.8B	9.07efg	9.27de	9.30de	9.21C	42.0cd	40.6cd	39.0c-f	40.5B
Sealed foam plate by polye. stretch	43.3cd	46.1bc	49.1a	46.2A	9.73c	9.47cd	10.1b	9.76B	55.0a	42.4c	34.7gh	44.0A
Sealed carton boxes by polye. Bags*	37.0f	37.0f	47.8ab	40.6C	9.07efg	8.90fg	9.1d-g	9.03C	38.5def	36.8efg	32.9h	36.1C
Mean	37.2C	38.6B	45.4A	-	9.39B	9.27B	9.65A	-	44.3A	39.1B	34.6C	-

Means within each column followed by the same letter (s) are not significantly different at 5% level.

* Fruits were packed in carton boxes at rate of 190±10 g fruits / liter.

Table7: Effect of some packaging treatments, cold storage periods and their interactions on acidity, technological index (TI) and TSS/acid Ratio in fruits of Balady lime after cold storage periods (2010 and 2011 seasons).

Storage period (days)	Acidity (%)				Technological index (TI)				TSS/Acid ratio			
	30	60	90	Mean	30	60	90	Mean	30	60	90	Mean
Packaging treatment: Fruits were packed in:	<i>1st Season</i>											
Plastic nets (control)	6.67a	7.73a	7.80a	7.73A	3.04de	3.32c	4.07a	3.47A	1.19f	1.35cde	1.36b-e	1.30B
Perforated 0.08% polyethylene Bags	7.01cd	6.67cde	6.78cde	6.82B	2.41g	3.23cd	3.44c	3.03C	1.33cde	1.34cde	1.33cde	1.33B
Perforated 0.008% polye. bags	7.10bc	6.67cde	6.47de	6.74BC	2.38g	2.98e	3.68b	3.01C	1.28ef	1.36b-e	1.44bc	1.36B
Sealed foam plate by polye. stretch	7.60ab	7.03c	6.43e	7.02B	2.76f	3.03de	3.77b	3.19B	1.25ef	1.33cde	1.46b	1.35B
Sealed carton boxes by polye. Bags*	7.15bc	6.63cde	5.63f	6.47C	2.36g	2.46g	2.71f	2.51D	1.29def	1.41bcd	1.68a	1.46A
Mean	7.31A	6.95B	6.62C	-	2.59C	3.01B	3.53A	-	1.27C	1.36B	1.45A	-
	<i>2nd Season</i>											
Plastic nets (control)	7.67ab	7.83a	7.37bc	7.62A	3.32c	3.29c	4.44a	3.68A	1.17g	1.29f	1.47c	1.31C
Perforated 0.08% polye. bags	7.67ab	7.33bc	6.83de	7.28B	2.72fg	3.33c	4.00b	3.35B	1.22fg	1.24fg	1.44cd	1.30C
Perforated 0.008% polye. bags	7.20cd	7.04cd	6.60ef	6.95C	2.57g	2.92de	3.47c	2.99C	1.27f	1.31ef	1.42cd	1.34C
Sealed foam plate by polye. stretch	7.73ab	6.87de	6.53ef	7.04C	2.84ef	3.10d	3.91b	3.28B	1.23fg	1.38de	1.56ab	1.39B
Sealed carton boxes by polye. Bags*	7.13cd	6.37f	6.33f	6.61D	2.53g	2.57g	2.93de	2.68D	1.30ef	1.49bc	1.63a	1.47A
Mean	7.48A	7.09B	6.73C	-	2.80C	3.04B	3.75A	-	1.24C	1.34B	1.50A	-

Means within each column followed by the same letter (s) are not significantly different at 5% level.

* Fruits were packed in carton boxes at rate of 190±10 g fruits / liter.

Table 8: Effect of some packaging treatments, cold storage periods and their interactions on acidity, technological index (TI) and TSS/acid Ratio in fruits of Balady lime after shelf life period (2010 and 2011 seasons).

Storage period (days)	Acidity (%)				Technological index (TI)				TSS/Acid ratio			
	30	60	90	Mean	30	60	90	Mean	30	60	90	Mean
Packaging treatment: Fruits were packed in:	<i>1st Season</i>											
Plastic nets (Control)	8.90a	7.37a	7.50a	7.92A	2.89f	2.97f	3.99cd	3.28D	1.15a	1.37a	1.44a	1.32A
Perforated 0.08% polyethylene bags	7.93a	6.77a	6.53a	7.08C	3.89cd	3.87cd	4.18bcd	3.98B	1.18a	1.35a	1.36a	1.30A
Perforated 0.008% polyethylene bags	7.93a	6.67a	6.43a	7.01C	4.10cd	3.97cd	4.09cd	4.05B	1.17a	1.39a	1.40a	1.32A
Sealed foam plate by polyethylene stretch	8.63a	7.17a	6.91a	7.57B	4.53ab	3.82d	4.57a	4.31A	1.16a	1.32a	1.44a	1.31A
Sealed carton boxes by polyethylene bags*	7.87a	7.07a	7.37a	7.43B	3.41e	3.41e	4.23abc	3.68C	1.18a	1.29a	1.24a	1.23A
Mean	8.25A	7.01B	6.95B	-	3.77B	3.61C	4.21A	-	1.17B	1.34A	1.37A	-
	<i>2nd Season</i>											
Plastic nets (Control)	8.30ab	7.37d-g	7.57cde	7.74A	2.92a	2.89a	3.72a	3.17D	1.17gh	1.29de	1.45ab	1.30A
Perforated 0.08% polyethylene bags	7.87bcd	7.23e-h	6.40j	7.17B	3.32a	3.54a	4.04a	3.63C	1.19fgh	1.28de	1.38bc	1.28A
Perforated 0.008% polyethylene bags	7.83bcd	6.93ghi	6.60ij	7.12B	3.65a	3.81a	4.67a	4.04B	1.16gh	1.34cd	1.41abc	1.30A
Sealed foam plate by polyethylene stretch	8.63a	7.47def	6.85hij	7.65A	4.22a	4.36a	4.95a	4.51A	1.13h	1.27def	1.47a	1.29A
Sealed carton boxes by polyethylene bags*	8.00bc	7.03f-i	7.38d-g	7.47A	3.35a	3.30a	4.37a	3.67C	1.13h	1.27def	1.24efg	1.21B
Mean	8.13A	7.21B	6.96C	-	3.49B	3.58B	4.35A	-	1.16C	1.29B	1.39A	-

Means within each column followed by the same letter (s) are not significantly different at 5% level.

* Fruits were packed in carton boxes at rate of 190±10 g fruits / liter.