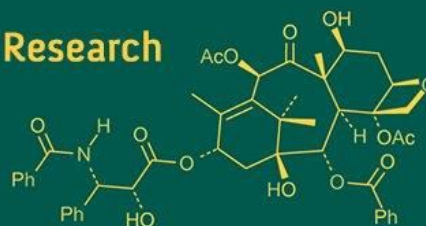
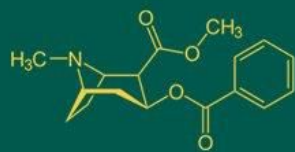


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Storage studies on parents and hybrids of Tomato (*Solanum lycopersicum* L.) under ambient room conditions

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Abstract

A set of 18 F₁ hybrids developed as a result of line x tester mating design involving six lines and three testers were evaluated in completely randomized block design with factorial concept in three replications. The treatment details comprising of the 18 F₁s along with 9 parents (6 lines and 3 testers) and 2 commercial hybrids and a variety as checks. Among the treatments, lowest PLW was recorded in LE-56 x Pusa Gaurav (7.77%) which was on par with other treatments LE-56 x Punjab Chhuhara (8.41%), EC-165759 x Pant T-3 (8.56%) and LE-64 x Punjab Chhuhara (8.86%). Among the treatments, the significantly highest TSS was observed in LE-62 x Pant T-3 (6.54) followed by LE-64 (6.26), LE-62 x Punjab Chhuhara (6.23) and EC-165749 x Pusa Gaurav (6.14), the significantly highest titrable acidity was recorded in LE-65 (0.49%) followed by LE-64 (0.45%), LE-67 (0.43%) and LE-65 x Punjab Chhuhara (0.43%), the reducing sugars content was significantly highest in LE-62 x Punjab Chhuhara (4.07%) which was on par with LE-62 x Pant T-3 (4.03%) and these are followed by EC-165749 x Pusa Gaurav (3.88%). In the fruits stored upto 16 days, relatively higher reducing sugars percentage was recorded in LE-62 x Pusa Gaurav (3.24%) followed by LE-56 x Punjab Chhuhara (2.90%). In the fruits stored upto 12 days, the significantly highest total sugars were recorded in LE-62 x Punjab Chhuhara (4.59%) which was on par with LE-64 (4.54%) and these are followed by LE-62 x Pant T-3 (4.36%) and EC-165749 x Pusa Gaurav (4.32%). Among the thirty treatments of tomato under ambient room conditions the hybrids LE-56 x Pusa Gaurav, EC-165749 x Pant T-3, LE-56 x Punjab Chhuhara, LE-64 x Punjab Chhuhara and LE-64 x Pant T-3 had better keeping quality for 16 days.

Keywords: Tomato, parents, hybrids, storage studies

Introduction

Tomato (*Solanum lycopersicum* L.) is a widely grown vegetable and is an important part of the human diet. It contains vitamins, minerals, and antioxidants that are beneficial for health. Tomato fruits spoil quickly after harvest because they are soft and contain high moisture. Under ambient room conditions, fruits lose quality due to weight loss, softening, and decay. Parents and hybrids differ in their storage life and fruit quality. Studying their storage behavior helps in selecting tomato types with better shelf life. Hence, the present study was undertaken to evaluate the storage performance of tomato parents and hybrids under ambient room conditions.

Materials and Methods

The present investigation was undertaken at an experimental farm of Vegetable Research Station, Agricultural Research Institute, Rajendranagar, Dr. Y.S. Horticultural University, Hyderabad. The experimental material consist of nine parents viz; EC-165749 (L₁), LE-56 (L₂), LE-62 (L₃), LE-64 (L₄), LE-65 (L₅), LE-67 (L₆) used as lines (females) and Punjab Chhuhara (T₁), Pant T-3 (T₂) and Pusa Gaurav (T₃) as testers (males) and mated as per Line x Tester mating model of Kempthorne (1957) [1]. A set of 18 F₁ hybrids developed as a result of line x tester mating design involving six lines and three testers were evaluated in completely randomized block design with factorial concept in three replications. The treatment details comprising of the 18 F₁s along with 9 parents (6 lines and 3 testers) and 2 commercial hybrids and a variety as check. Storage of tomatoes under ambient room

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conditions at four days interval was observed. Physiological loss in weight (%), titrable acidity (%), TSS ($^{\circ}$ Brix), reducing sugars (%) and total sugars (%) were estimated by procedure as described by Ranganna (1986) [12]. The data obtained were subjected to statistical analysis as per the procedure outlined by Panse and Sukhatne (1967) [13].

Results and Discussion

The treatment details comprising of the 18 F_1 s along with 9 parents (6 lines and 3 testers) and 2 commercial hybrids and a variety as checks. Effect of different treatments on the storage of tomatoes at ambient condition and the physico-chemical parameters of tomato are presented in Table 1 to Table 5.

Physiological loss in weight (%)

The results in Table 1 indicate that there were significant differences in PLW on different days of storage. Significant increase was observed during the storage period. The lowest PLW was observed on 4th day (5.25%) of storage and highest PLW on 12th day (15.39%) of storage. Significant differences were also observed among the treatments. Lowest PLW was recorded in LE-56 $\times$ Pusa Gaurav (7.77%) which was on par with other treatments LE-56 $\times$ Punjab Chhuhara (8.41%), EC-165759 $\times$ Pant T-3 (8.56%) and LE-64 $\times$ Punjab Chhuhara (8.86%) and highest was observed in LE-67 (13.54%). Higher PLW values were observed on 16th day of storage for LE-64 $\times$ Pant T-3 (19.30%) followed by LE-64 $\times$ Punjab Chhuhara (19.08%). The interaction between the treatments and days of storage was also significant. The treatment LE-56 $\times$ Punjab Chhuhara (4.04%) recorded the lower PLW on 4th day while it was the highest on 12th in LE-67 (19.52%). Physical changes like physiological loss in weight (PLW) indicated a gradual and continuous increase in PLW during storage (Table 1). The PLW as reviewed earlier is characterized by loss in moisture through transpiration and evaporation, draining of stored energy by respiration of living tissue in fruits (Davies and Hobson, 1981) [14]. Thus, higher the PLW, lower is the shelf life of fruits and vice-versa. Hence, the increase in PLW during storage can be attributed to the aforesaid reasons. Increased PLW with an increase in storage period was earlier reported by Subburamu *et al.* (1990) [15] in tomato which lends support for the findings of present investigation.

Titrable acidity (%)

It is evident from the Table 2 that there was significant difference among the treatments, days of storage and interaction effect in titrable acidity. Among the treatments, the significantly highest titrable acidity was recorded in LE-65 (0.49%) followed by LE-64 (0.45%), LE-67 (0.43%) and LE-65 $\times$ Punjab Chhuhara (0.43%) and lowest in LE-56 $\times$ Pant T-3 (0.23%). In the fruits stored upto 16 days, the highest titrable acidity was recorded in EC-165749 $\times$ Pant T-3 (0.25%) followed by LE-64 $\times$ Pant T-3 (0.19%). It was observed that there was a significant decrease in the titrable acidity from 0th day (0.45%) to 12th day (0.24%). Significant interaction effects between the treatments and storage period were also observed. The treatment LE-65 (0.59%) recorded highest acidity on 0th day and lowest in LE-56 $\times$ Pant T-3 (0.15%) on 12th day at any given storage interval. There was a gradual decrease in titrable acidity in all the treatments with the advancement of storage period. The predominant

acid of tomato is citric acid followed by maleic and oxalic acids. The acidity in terms of citric acid decreased continuously from the initial day till the end whereas the brix: acid ratio increased gradually during storage (Table 2). The decline in acidity could be due to utilization of acids in the respiratory process or conversion of acids into sugars and salts by enzymes (Koutsos *et al.*, 1994) [16]. As the levels of sugars increased, the acidity decreased. An increase in TSS/sugars coupled with continuous increase in brix; acid ratio of the fruits. These findings are in line with those reported by Bhagwan (1998) [17].

TSS ($^{\circ}$ Brix)

It is evident from the data presented in Table 3 that there was a significant difference in TSS among treatments, storage intervals and with their interactions. Among the treatments, the significantly highest TSS was observed in LE-62 $\times$ Pant T-3 (6.54) followed by LE-64 (6.26), LE-62 $\times$ Punjab Chhuhara (6.23) and EC-165749 $\times$ Pusa Gaurav (6.14) and lowest in Pusa Gaurav (4.42). In the fruits stored upto 16 days, the highest TSS was recorded in LE-56 $\times$ Pusa Gaurav (4.95) followed by LE-56 $\times$ Punjab Chhuhara (4.76). With the increase in duration of storage period, the TSS content increased significantly from the 0th day (5.27) to 8th day (5.64) of storage and then declined gradually towards the end of storage. TSS of fruits was also influenced significantly by interaction between the treatments and storage period. The treatment LE-62 $\times$ Pant T-3 (6.83) recorded the highest TSS on 8th day. The lowest values were observed in Pusa Gaurav (4.23) on 12th day. Higher TSS observed in LE-62 $\times$ Pant T-3 at any given storage interval.

Reducing sugars (%)

As it is shown in the Table 4 significant change in reducing sugar content was observed during the storage period, treatments and their interactions. Among the treatments, the reducing sugars content was significantly highest in LE-62 $\times$ Punjab Chhuhara (4.07%) which was on par with LE-62 $\times$ Pant T-3 (4.03%) and these are followed by EC-165749 $\times$ Pusa Gaurav (3.88%). In the fruits stored upto 16 days, relatively higher reducing sugars percentage was recorded in LE-62 $\times$ Pusa Gaurav (3.24%) followed by LE-56 $\times$ Punjab Chhuhara (2.90%). The content of reducing sugars increased significantly from 0th day (2.75%) to 8th day (3.39%) and then declined towards the end of the storage period. The treatments interacted with storage period and exerted a significant influence on reducing sugar content of fruits. The treatment LE-62 $\times$ Pant T-3 (4.60%) recorded the highest sugar content on 8th day while the lowest was observed with Pusa Gaurav (1.62%) on 0th day.

Total sugars (%)

The data regarding the total sugars as influenced by treatments are indicated in Table 5. Significant increase in total sugars was observed among the treatments, duration of storage and their interactions. In the fruits stored upto 12 days, the significantly highest total sugars were recorded in LE-62 $\times$ Punjab Chhuhara (4.59%) which was on par with LE-64 (4.54%) and these are followed by LE-62 $\times$ Pant T-3 (4.36%) and EC-165749 $\times$ Pusa Gaurav (4.32%). The lowest total sugar content was observed in LE-67 $\times$ Punjab Chhuhara (2.54%). In the fruits stored upto 16 days, the highest total sugars was recorded in LE-62 $\times$ Punjab Chhuhara (3.58%) followed by LE-56 $\times$ Punjab Chhuhara

(3.24%). Total sugars significantly increased from 0th day (3.22%) to 8th day (3.98%) and then declined towards the end of storage. The interaction between treatments and storage period also exerted significant influence. The highest total sugar content was observed with LE-64 (5.18%) on 8th day while the lowest was recorded in LE-67 × Punjab Chhuhara (2.23%) on 12th day of storage.

It is clear from the data (Tables 3, 4 and 5) that irrespective of the treatments, the TSS, reducing sugar and total sugar content of fruits increased gradually from breaker stage till they became red ripe and the highest levels during storage were observed on days coinciding with red ripe stage. This

increase was further followed by a gradual decrease towards the end. The starch content reaches a peak half way through development and falls to one per cent at mature green stage (Ho and Hewitt, 1985) [8] and its hydrolysis is completed early in ripening at which point in development, reducing sugars are present in maximum concentration (Hobson and Harman, 1986) [9]. Thus, the initial increase in TSS and sugars observed during storage may be attributed to gradual conversion of starch to sugars and subsequent decline to their utilization in the respiration process. Similar trends were reported by many earlier workers Bhagwan (1998) [7].

Table 1: Physiological loss of weight (%) of tomato during storage at room temperature

S. No.	Treatments	Days				
		4	8	12	Mean	16
1	EC -165749 x Punjab Chhuhara	4.36	9.92	14.05	9.44	*
2	EC -165749 x Pant T-3	4.20	9.22	12.27	8.56	18.24
3	EC -165749 x Pusa Gaurav	4.92	10.88	14.61	10.14	*
4	LE-56 x Punjab Chhuhara	4.04	8.84	12.36	8.41	18.36
5	LE-56 x Pant T-3	5.68	12.12	16.10	11.30	*
6	LE-56 x Pusa Gaurav	4.15	8.36	10.82	7.77	16.80
7	LE-62 x Punjab Chhuhara	5.82	12.28	15.98	11.36	*
8	LE-62 x Pant T-3	5.20	10.22	14.56	9.99	*
9	LE-62 x Pusa Gaurav	5.62	11.07	15.20	10.63	*
10	LE-64 x Punjab Chhuhara	4.08	9.42	13.09	8.86	19.08
11	LE-64 x Pant T-3	4.28	9.69	13.33	9.10	19.30
12	LE-64 x Pusa Gaurav	6.01	13.09	17.41	12.17	*
13	LE-65 x Punjab Chhuhara	4.42	9.56	14.61	9.53	*
14	LE-65 x Pant T-3	4.56	10.20	14.72	9.83	*
15	LE-65 x Pusa Gaurav	6.26	13.26	17.65	12.39	*
16	LE-67 x Punjab Chhuhara	4.52	9.82	14.84	9.73	*
17	LE-67 x Pant T-3	6.40	13.42	18.52	12.78	*
18	LE-67 x Pusa Gaurav	4.81	10.32	14.40	9.84	*
19	EC -165749	5.56	11.62	16.00	11.06	*
20	LE-56	6.45	14.02	19.14	13.20	*
21	LE-62	5.76	11.72	15.45	10.98	*
22	LE-64	6.30	13.75	18.05	12.70	*
23	LE-65	6.20	12.46	17.10	11.92	*
24	LE-67	6.50	14.61	19.52	13.54	*
25	Punjab Chhuhara	4.63	10.28	15.06	9.99	*
26	Pant T-3	5.30	11.02	15.62	10.65	*
27	Pusa Gaurav	5.48	11.22	14.72	10.47	*
28	Lakshmi	4.75	10.72	14.69	10.05	*
29	US-618	5.40	10.76	14.96	10.37	*
30	Arka Vikas	5.92	12.50	16.80	11.74	*
	Mean	5.25	11.21	15.39		
		S.Em±		CD (0.05)		
Treatments (T)		0.39		1.10		
Days (D)		0.12		0.35		
T×D		0.68		1.90		

* Indicates termination of storage

Table 2: Titrable acidity of tomato during storage at room temperature

S. No.	Treatments	Days				
		0	4	8	12	Mean
1	EC -165749 x Punjab Chhuhara	0.47	0.44	0.35	0.28	0.39
2	EC -165749 x Pant T-3	0.51	0.44	0.38	0.29	0.41
3	EC -165749 x Pusa Gaurav	0.49	0.41	0.34	0.25	0.37
4	LE-56 x Punjab Chhuhara	0.38	0.30	0.23	0.20	0.28
5	LE-56 x Pant T-3	0.34	0.25	0.18	0.15	0.23
6	LE-56 x Pusa Gaurav	0.39	0.30	0.24	0.19	0.28
7	LE-62 x Punjab Chhuhara	0.41	0.32	0.24	0.21	0.30
8	LE-62 x Pant T-3	0.35	0.28	0.22	0.18	0.26
9	LE-62 x Pusa Gaurav	0.42	0.36	0.25	0.20	0.31
10	LE-64 x Punjab Chhuhara	0.40	0.32	0.24	0.20	0.29
11	LE-64 x Pant T-3	0.43	0.36	0.26	0.24	0.32

12	LE-64 x Pusa Gaurav	0.41	0.34	0.25	0.18	0.30	*
13	LE-65 x Punjab chhuhara	0.53	0.48	0.40	0.30	0.43	*
14	LE-65 x Pant T-3	0.47	0.45	0.38	0.30	0.40	*
15	LE-65 x Pusa Gaurav	0.49	0.43	0.36	0.27	0.39	*
16	LE-67 x Punjab Chhuhara	0.45	0.40	0.38	0.30	0.38	*
17	LE-67 x Pant T-3	0.40	0.32	0.24	0.20	0.29	*
18	LE-67 x Pusa Gaurav	0.37	0.30	0.23	0.19	0.27	*
19	EC -165749	0.59	0.44	0.36	0.30	0.42	*
20	LE-56	0.40	0.33	0.23	0.20	0.29	*
21	LE-62	0.51	0.44	0.38	0.29	0.41	*
22	LE-64	0.54	0.48	0.43	0.36	0.45	*
23	LE-65	0.59	0.52	0.46	0.38	0.49	*
24	LE-67	0.53	0.48	0.40	0.30	0.43	*
25	Punjab Chhuhara	0.40	0.34	0.28	0.20	0.31	*
26	Pant T-3	0.42	0.36	0.26	0.21	0.31	*
27	Pusa Gaurav	0.45	0.39	0.30	0.24	0.35	*
28	Lakshmi	0.44	0.36	0.28	0.22	0.33	*
29	US-618	0.42	0.34	0.31	0.25	0.33	*
30	Arka Vikas	0.36	0.28	0.21	0.18	0.26	*
	Mean	0.45	0.38	0.30	0.24		
		S.Em±		CD (0.05)			
	Treatments (T)	0.006		0.02			
	Days (D)	0.002		0.006			
	TxD	0.01		0.03			

* Indicates termination of storage

Table 3: TSS of tomato during storage at room temperature

S. No.	Treatments	Days					
		0	4	8	12	Mean	16
1	EC -165749 x Punjab Chhuhara	4.43	4.62	4.75	4.32	4.53	*
2	EC -165749 x Pant T-3	4.50	4.70	4.80	4.37	4.59	3.71
3	EC -165749 x Pusa Gaurav	6.00	6.25	6.40	5.90	6.14	*
4	LE-56 x Punjab Chhuhara	5.47	5.77	5.85	5.37	5.62	4.76
5	LE-56 x Pant T-3	5.50	5.73	5.87	5.36	5.62	*
6	LE-56 x Pusa Gaurav	5.53	5.77	6.05	5.52	5.72	4.95
7	LE-62 x Punjab Chhuhara	6.10	6.36	6.50	5.94	6.23	*
8	LE-62 x Pant T-3	6.40	6.67	6.83	6.24	6.54	*
9	LE-62 x Pusa Gaurav	5.33	5.46	5.50	5.05	5.34	*
10	LE-64 x Punjab Chhuhara	5.17	5.38	5.67	5.20	5.36	4.48
11	LE-64 x Pant T-3	5.00	5.20	5.33	4.87	5.10	4.30
12	LE-64 x Pusa Gaurav	5.33	5.63	5.70	5.20	5.47	*
13	LE-65 x Punjab Chhuhara	5.03	5.25	5.37	4.94	5.15	*
14	LE-65 x Pant T-3	5.45	5.65	5.77	5.30	5.54	*
15	LE-65 x Pusa Gaurav	5.43	5.56	5.76	5.25	5.50	*
16	LE-67 x Punjab Chhuhara	4.43	4.62	4.73	4.30	4.52	*
17	LE-67 x Pant T-3	5.40	5.67	5.80	5.30	5.54	*
18	LE-67 x Pusa Gaurav	4.97	5.18	5.40	4.84	5.10	*
19	EC -165749	6.00	6.17	6.40	5.85	6.11	*
20	LE-56	4.93	5.17	5.07	4.62	4.95	*
21	LE-62	4.70	4.90	5.26	4.80	4.92	*
22	LE-64	6.13	6.38	6.54	5.98	6.26	*
23	LE-65	5.17	5.40	5.50	5.05	5.28	*
24	LE-67	5.53	5.70	5.90	5.37	5.63	*
25	Punjab Chhuhara	5.67	5.90	6.25	5.43	5.81	*
26	Pant T-3	5.47	5.70	5.83	5.33	5.58	*
27	Pusa Gaurav	4.33	4.50	4.62	4.23	4.42	*
28	Lakshmi	4.73	4.93	5.03	4.50	4.80	*
29	US-618	4.97	5.14	5.30	4.84	5.06	*
30	Arka Vikas	5.07	5.28	5.40	4.90	5.16	*
	Mean	5.27	5.49	5.64	5.14		
		S.Em±		CD (0.05)			
	Treatments (T)	0.02		0.06			
	Days (D)	0.008		0.02			
	TxD	0.05		0.13			

* Indicates termination of storage

Table 4: Reducing sugars (%) of tomato during storage at room temperature

S. No.	Treatments	Days					
		0	4	8	12	Mean	16
1	EC -165749 x Punjab Chhuhara	1.74	1.94	2.00	1.67	1.84	*
2	EC -165749 x Pant T-3	1.99	2.22	2.46	2.05	2.18	1.91
3	EC -165749 x Pusa Gaurav	3.65	4.10	4.36	3.40	3.88	*
4	LE-56 x Punjab Chhuhara	3.15	3.50	4.01	3.34	3.50	2.90
5	LE-56 x Pant T-3	3.05	3.40	3.68	3.14	3.32	*
6	LE-56 x Pusa Gaurav	3.31	3.63	4.50	3.75	3.80	3.24
7	LE-62 x Punjab Chhuhara	3.74	4.16	4.56	3.84	4.07	*
8	LE-62 x Pant T-3	3.69	4.06	4.60	3.79	4.03	*
9	LE-62 x Pusa Gaurav	2.82	3.05	3.62	3.01	3.13	*
10	LE-64 x Punjab Chhuhara	2.74	3.05	3.34	2.82	2.99	2.30
11	LE-64 x Pant T-3	2.33	2.60	2.83	2.40	2.54	2.04
12	LE-64 x Pusa Gaurav	2.74	3.05	3.38	2.81	2.99	*
13	LE-65 x Punjab Chhuhara	2.58	2.87	3.00	2.65	2.77	*
14	LE-65 x Pant T-3	2.99	3.27	3.77	3.06	3.27	*
15	LE-65 x Pusa Gaurav	2.91	3.23	3.48	2.98	3.15	*
16	LE-67 x Punjab Chhuhara	2.08	2.32	2.65	2.14	2.30	*
17	LE-67 x Pant T-3	2.75	3.14	3.38	2.81	3.02	*
18	LE-67 x Pusa Gaurav	2.20	2.45	2.57	2.30	2.38	*
19	EC -165749	3.54	3.94	4.08	3.63	3.80	*
20	LE-56	2.29	2.50	3.00	2.50	2.57	*
21	LE-62	2.16	2.40	2.70	2.26	2.38	*
22	LE-64	3.14	3.50	3.88	3.22	3.44	*
23	LE-65	2.70	3.00	3.38	2.77	2.96	*
24	LE-67	3.26	3.62	3.87	3.35	3.53	*
25	Punjab Chhuhara	3.26	3.68	4.02	3.23	3.55	*
26	Pant T-3	2.94	3.32	3.58	2.90	3.19	*
27	Pusa Gaurav	1.62	1.81	2.15	1.80	1.84	*
28	Lakshmi	2.43	2.70	2.87	2.35	2.59	*
29	US-618	2.24	2.55	2.76	2.20	2.44	*
30	Arka Vikas	2.43	2.70	3.18	2.49	2.70	*
	Mean	2.75	3.06	3.39	2.82		
		S.Em±		CD (0.05)			
	Treatments (T)	0.02		0.06			
	Days (D)	0.008		0.02			
	TxD	0.04		0.12			

* Indicates termination of storage

Table 5: Total sugars (%) of tomato during storage at room temperature

S. No.	Treatments	Days					
		0	4	8	12	Mean	16
1	EC -165749 x Punjab Chhuhara	2.50	2.78	3.08	2.57	2.73	*
2	EC -165749 x Pant T-3	2.62	2.90	3.28	2.73	2.88	2.36
3	EC -165749 x Pusa Gaurav	3.87	4.32	4.97	4.14	4.32	*
4	LE-56 x Punjab Chhuhara	3.54	3.94	4.42	3.63	3.88	3.24
5	LE-56 x Pant T-3	3.44	3.82	4.25	3.53	3.76	*
6	LE-56 x Pusa Gaurav	3.88	4.10	4.77	3.98	4.18	3.58
7	LE-62 x Punjab Chhuhara	4.20	4.68	5.17	4.32	4.59	*
8	LE-62 x Pant T-3	4.03	4.66	4.78	3.94	4.36	*
9	LE-62 x Pusa Gaurav	3.43	3.83	4.13	3.40	3.70	*
10	LE-64 x Punjab Chhuhara	3.28	3.64	4.05	3.38	3.59	2.56
11	LE-64 x Pant T-3	2.71	2.98	3.58	3.00	3.07	2.42
12	LE-64 x Pusa Gaurav	3.29	3.66	4.03	3.40	3.59	*
13	LE-65 x Punjab Chhuhara	2.90	3.24	3.45	2.78	3.09	*
14	LE-65 x Pant T-3	3.35	3.73	4.08	3.42	3.65	*
15	LE-65 x Pusa Gaurav	3.30	3.68	4.06	3.35	3.60	*
16	LE-67 x Punjab Chhuhara	2.49	2.67	2.77	2.23	2.54	*
17	LE-67 x Pant T-3	3.31	3.67	4.23	3.52	3.68	*
18	LE-67 x Pusa Gaurav	2.68	3.01	3.30	2.70	2.92	*
19	EC -165749	3.58	4.00	4.36	3.78	3.93	*
20	LE-56	2.91	3.23	3.77	3.00	3.23	*
21	LE-62	2.66	2.96	3.12	2.75	2.87	*
22	LE-64	4.19	4.48	5.18	4.30	4.54	*
23	LE-65	3.06	3.40	3.59	3.14	3.30	*

24	LE-67	3.57	3.94	4.42	3.67	3.90	*
25	Punjab Chhuhara	3.68	4.30	4.54	3.67	4.06	*
26	Pant T-3	3.45	3.84	4.25	3.54	3.77	*
27	Pusa Gaurav	2.17	2.40	3.08	2.56	2.55	*
28	Lakshmi	2.53	2.82	3.23	2.60	2.80	*
29	US-618	2.80	3.10	3.34	2.87	3.03	*
30	Arka Vikas	3.27	3.64	4.04	3.36	3.58	*
	Mean	3.22	3.58	3.98	3.31		
		S.Em±		CD (0.05)			
	Treatments (T)	0.02		0.06			
	Days (D)	0.008		0.02			
	TxD	0.05		0.13			

* Indicates termination of storage

Conclusion

Among the thirty treatments of tomato under ambient room conditions the hybrids LE-56 × Pusa Gaurav, EC-165749 X Pant T-3, LE-56 × Punjab Chhuhara, LE-64 × Punjab Chhuhara and LE-64 × Pant T-3 had better keeping quality for 16 days.

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