

Experiment No. : 7			
1.	Title of experiment	:	TOMATO(ToLCV) Varietal Det - AVT-II
2.	Location	:	Regional Horticultural Research Station, A.C.H., N.A.U., Navsari
3.	Agro-ecological situation	:	South Gujarat Heavy Rainfall Zone, AES-III
4.	Name of Investigator	:	PI: Dr.J.M.Vashi Co-PI: Prof.H.R.Rathod Asso. PI: Dr.D.R.Bhanderi
5.	Year and Season	:	<i>Rabi</i> 2024-25
6.	Experimental detail	:	
	(a) Design	:	RBD
	(b) No. of Entries	:	7
			1. 2022/TOLCVVARRES-1
			2. 2022/TOLCVVARRES-2
			3. 2022/TOLCVVARRES-3
			4. 2022/TOLCVVARRES-4
			5. 2022/TOLCVVARRES-5
			6. 2022/TOLCVVARRES-6
			7. 2022/TOLCVVARRES-7
	(c) Replication	:	3
	(d) Plot Size	:	4.8 m X 4.0 m
	(e) Spacing	:	60 cm X 50 cm
	(f) Fertilizer NPK kg/ha	:	150-75-75
	(g) Date of seed sowing	:	10/11/2024
	(h) Date of transplanting	:	14/12/2024
	(i) Date of first picking	:	06/02/2025
	(j) Date of last picking	:	2/04/2025
7.	Methodology	:	As per the guideline given by PC cell
8.	Research results	:	Table -1 to Table – 10

Table 1. Days to first fruit maturity at Navsari centre

Days to first fruit maturity					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2022/TOLCVVARRES-1	84.00	80.00	87.00	83.67
2	2022/TOLCVVARRES-2	73.00	74.00	79.00	75.33
3	2022/TOLCVVARRES-3	80.00	75.00	79.00	78.00
4	2022/TOLCVVARRES-4	73.00	74.00	73.00	73.33
5	2022/TOLCVVARRES-5	72.00	78.00	70.00	73.33
6	2022/TOLCVVARRES-6	74.00	73.00	78.00	75.00
7	2022/TOLCVVARRES-7	80.00	74.00	72.00	75.33
SEm±		1.94			
CD at 5%		5.97			
CV%		4.40			

Table 2. Marketable fruit yield (kg/plot) at Navsari centre

Total marketable fruit yield (kg/plot)					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2022/TOLCVVARRES-1	41.79	48.29	55.80	48.63
2	2022/TOLCVVARRES-2	58.78	61.84	68.89	63.17
3	2022/TOLCVVARRES-3	52.61	48.90	55.94	52.48
4	2022/TOLCVVARRES-4	55.92	68.43	67.82	64.06
5	2022/TOLCVVARRES-5	67.82	59.43	70.76	66.01
6	2022/TOLCVVARRES-6	54.29	55.94	46.06	52.10
7	2022/TOLCVVARRES-7	49.20	60.80	52.39	54.13
SEm±		3.22			
CD at 5%		9.91			
CV%		9.73			

Table 3.. Marketable fruit yield (q/ha) at Navsari centre

Total marketable fruit yield (q/ha)					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2022/TOLCVVARRES-1	217.67	251.49	290.62	253.26
2	2022/TOLCVVARRES-2	306.14	322.09	358.78	329.01
3	2022/TOLCVVARRES-3	274.03	254.68	291.36	273.36
4	2022/TOLCVVARRES-4	291.25	356.41	353.25	333.64
5	2022/TOLCVVARRES-5	353.25	309.53	368.56	343.78
6	2022/TOLCVVARRES-6	282.75	291.36	239.90	271.34
7	2022/TOLCVVARRES-7	256.27	316.67	272.86	281.93
SEm±		16.75			
CD at 5%		51.60			
CV%		9.73			

Table 4.Fruit shape at Navsari centre

Sr. No.	Entries/Genotype	Fruit shape
1	2022/TOLCVVARRES-1	Round
2	2022/TOLCVVARRES-2	Oblong
3	2022/TOLCVVARRES-3	Oblong
4	2022/TOLCVVARRES-4	Round
5	2022/TOLCVVARRES-5	Flatish round
6	2022/TOLCVVARRES-6	Round
7	2022/TOLCVVARRES-7	Oblong

Conclusion:

Total 7 entries were evaluated under AVT-II of tomato (Determinate) and among them fruit yield were found significant. Genotype 2022/TOLCVVARRES-5 exhibited significantly higher fruit yield (343.78 q/ha).Among all the coded entries, 2022/TOLCVVARRES-5 was found promising at Navsari centre.

Table 5. Equatorial diameter of fruit (cm) at Navsari centre

Equatorial diameter (cm)					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2022/TOLCVVARRES-1	4.98	4.60	4.77	4.78
2	2022/TOLCVVARRES-2	5.72	5.30	4.98	5.33
3	2022/TOLCVVARRES-3	4.42	4.55	5.14	4.70
4	2022/TOLCVVARRES-4	5.67	5.30	6.18	5.72
5	2022/TOLCVVARRES-5	6.12	5.44	5.77	5.78
6	2022/TOLCVVARRES-6	4.88	5.09	5.11	5.03
7	2022/TOLCVVARRES-7	5.33	5.02	4.69	5.01
SEm±		0.19			
CD at 5%		0.57			
CV%		6.21			

Table 6. Polar diameter of fruit (cm) at Navsari centre

Polar diameter (cm)					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2022/TOLCVVARRES-1	4.28	4.77	4.95	4.67
2	2022/TOLCVVARRES-2	5.12	4.37	5.26	4.92
3	2022/TOLCVVARRES-3	4.33	4.25	4.40	4.33
4	2022/TOLCVVARRES-4	4.84	4.73	5.55	5.04
5	2022/TOLCVVARRES-5	5.60	4.92	5.88	5.47
6	2022/TOLCVVARRES-6	4.60	4.77	5.12	4.83
7	2022/TOLCVVARRES-7	4.35	4.78	4.42	4.52
SEm±		0.18			
CD at 5%		0.54			
CV%		6.31			

Table 7. Average weight of single fruit (g) at Navsari centre

Average weight of single fruit (g)					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2022/TOLCVVARRES-1	39.66	34.22	33.78	35.89
2	2022/TOLCVVARRES-2	47.96	58.49	52.41	52.95
3	2022/TOLCVVARRES-3	38.86	44.63	37.33	40.27
4	2022/TOLCVVARRES-4	59.69	54.37	49.45	54.50
5	2022/TOLCVVARRES-5	58.44	56.88	56.38	57.23
6	2022/TOLCVVARRES-6	46.85	37.69	43.64	42.73
7	2022/TOLCVVARRES-7	48.92	40.32	34.53	41.26
SEm±		2.54			
CD at 5%		7.82			
CV%		9.48			

Table 8. No. of locules /fruit at Navsari centre

No. of locules /fruit					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2022/TOLCVVARRES-1	3.00	2.00	3.00	2.67
2	2022/TOLCVVARRES-2	3.00	2.00	2.00	2.33
3	2022/TOLCVVARRES-3	3.00	3.00	3.00	3.00
4	2022/TOLCVVARRES-4	3.00	2.00	3.00	2.67
5	2022/TOLCVVARRES-5	3.00	3.00	2.00	2.67
6	2022/TOLCVVARRES-6	3.00	3.00	3.00	3.00
7	2022/TOLCVVARRES-7	3.00	3.00	2.00	2.67
SEm±		0.26			
CD at 5%		NS			
CV%		16.74			

Table 9. Fruit TSS ° (Brix) at Navsari centre

TSS (° Brix)					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2022/TOLCVVARRES-1	3.35	3.15	3.02	3.17
2	2022/TOLCVVARRES-2	3.19	3.59	3.77	3.52
3	2022/TOLCVVARRES-3	4.33	3.75	3.66	3.91
4	2022/TOLCVVARRES-4	3.96	4.10	4.02	4.03
5	2022/TOLCVVARRES-5	4.11	3.78	4.80	4.23
6	2022/TOLCVVARRES-6	3.80	3.45	3.66	3.64
7	2022/TOLCVVARRES-7	3.65	3.48	3.26	3.46
SEm±		0.17			
CD at 5%		0.54			
CV%		8.13			

Table 10. Biotic stress susceptibility on 60 and 90 days after transplanting at Navsari centre

Sr. No.	Entries/Genotype	Plant population (%)	TLCV at 60 DATP	TLCV at 90 DATP	Tospovirus	B.W	Variability	PDI (%)
1	2022/TOLCVVARRES-1	100	Resistance	Resistance	Resistance	Resistance	Not Found	1.33
2	2022/TOLCVVARRES-2	100	Resistance	Resistance	Resistance	Resistance	Not Found	0.66
3	2022/TOLCVVARRES-3	100	Resistance	Resistance	Resistance	Resistance	Not Found	2.66
4	2022/TOLCVVARRES-4	100	Resistance	Resistance	Resistance	Resistance	Not Found	3.99
5	2022/TOLCVVARRES-5	100	Resistance	Resistance	Resistance	Resistance	Not Found	1.33
6	2022/TOLCVVARRES-6	100	Resistance	Resistance	Resistance	Resistance	Not Found	0.66
7	2022/TOLCVVARRES-7	100	Resistance	Resistance	Resistance	Resistance	Not Found	2.66

