

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

**Table 1. Days to first fruit maturity at Navsari centre**

<b>Days to first fruit maturity</b>					
<b>Sr. No.</b>	<b>Entries/Genotype</b>	<b>RI</b>	<b>RII</b>	<b>RIII</b>	<b>Mean</b>
1	2022/TOLCVHYBRES-1	80.00	86.00	82.00	82.67
2	2022/TOLCVHYBRES-2	70.00	77.00	68.00	71.67
3	2022/TOLCVHYBRES-3	73.00	75.00	80.00	76.00
4	2022/TOLCVHYBRES-4	74.00	80.00	74.00	76.00
5	2022/TOLCVHYBRES-5	70.00	75.00	79.00	74.67
6	2022/TOLCVHYBRES-6	78.00	70.00	74.00	74.00
7	2022/TOLCVHYBRES-7	80.00	74.00	72.00	75.33
<b>SEm±</b>		<b>2.42</b>			
<b>CD at 5%</b>		<b>NS</b>			
<b>CV%</b>		<b>5.52</b>			

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

<b>Total marketable fruit yield (kg/plot)</b>					
<b>Sr. No.</b>	<b>Entries/Genotype</b>	<b>RI</b>	<b>RII</b>	<b>RIII</b>	<b>Mean</b>
1	2022/TOLCVHYBRES-1	42.34	49.67	38.63	43.55
2	2022/TOLCVHYBRES-2	91.26	81.24	94.53	89.01
3	2022/TOLCVHYBRES-3	77.99	69.15	67.60	71.58
4	2022/TOLCVHYBRES-4	73.36	85.18	76.66	78.40
5	2022/TOLCVHYBRES-5	71.36	68.40	62.80	67.52
6	2022/TOLCVHYBRES-6	62.54	59.00	68.15	63.23
7	2022/TOLCVHYBRES-7	72.77	56.04	73.34	67.38
<b>SEm±</b>		<b>3.84</b>			
<b>CD at 5%</b>		<b>11.84</b>			
<b>CV%</b>		<b>9.70</b>			

**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/TOLCVHYBRES-1	220.54	258.72	201.19	226.82
2	2022/TOLCVHYBRES-2	475.33	423.11	492.34	<b>463.59</b>
3	2022/TOLCVHYBRES-3	406.21	360.16	352.08	372.82
4	2022/TOLCVHYBRES-4	382.07	443.64	399.29	408.33
5	2022/TOLCVHYBRES-5	371.65	356.23	327.09	351.66
6	2022/TOLCVHYBRES-6	325.71	307.31	354.95	329.33
7	2022/TOLCVHYBRES-7	378.98	291.89	381.96	350.95
<b>SEm±</b>		<b>20.02</b>			
<b>CD at 5%</b>		<b>61.68</b>			
<b>CV%</b>		<b>9.70</b>			

**Table 4. Fruit shape at Navsari centre**

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

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

Equatorial diameter (cm)					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2022/TOLCVHYBRES-1	4.58	4.42	4.98	4.66
2	2022/TOLCVHYBRES-2	5.78	5.06	5.95	5.60
3	2022/TOLCVHYBRES-3	4.45	4.75	5.09	4.76
4	2022/TOLCVHYBRES-4	5.25	4.88	4.66	4.93
5	2022/TOLCVHYBRES-5	5.06	4.77	4.66	4.83
6	2022/TOLCVHYBRES-6	4.88	4.62	4.82	4.77
7	2022/TOLCVHYBRES-7	4.65	4.92	4.20	4.59
<b>SEm±</b>		<b>0.19</b>			
<b>CD at 5%</b>		<b>0.58</b>			
<b>CV%</b>		<b>6.66</b>			

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

Polar diameter (cm)					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2022/TOLCVHYBRES-1	4.72	4.36	4.89	4.66
2	2022/TOLCVHYBRES-2	6.30	5.28	5.77	5.78
3	2022/TOLCVHYBRES-3	4.55	4.63	5.44	4.87
4	2022/TOLCVHYBRES-4	5.33	4.68	4.82	4.94
5	2022/TOLCVHYBRES-5	4.68	4.57	5.32	4.86
6	2022/TOLCVHYBRES-6	4.75	4.90	4.55	4.73
7	2022/TOLCVHYBRES-7	4.33	4.68	4.80	4.60
<b>SEm±</b>		<b>0.20</b>			
<b>CD at 5%</b>		<b>0.62</b>			
<b>CV%</b>		<b>7.05</b>			

**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/TOLCVHYBRES-1	43.39	41.77	40.33	41.83
2	2022/TOLCVHYBRES-2	52.90	66.77	55.42	58.36
3	2022/TOLCVHYBRES-3	52.74	45.21	47.69	48.55
4	2022/TOLCVHYBRES-4	58.62	50.77	46.94	52.11
5	2022/TOLCVHYBRES-5	44.62	37.12	47.10	42.95
6	2022/TOLCVHYBRES-6	46.76	52.22	42.30	47.09
7	2022/TOLCVHYBRES-7	51.02	44.75	46.43	47.40
<b>SEm±</b>		<b>2.88</b>			
<b>CD at 5%</b>		<b>8.86</b>			
<b>CV%</b>		<b>10.31</b>			

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

No. of locules /fruit					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2022/TOLCVHYBRES-1	3.00	3.00	2.00	2.67
2	2022/TOLCVHYBRES-2	2.00	3.00	3.00	2.67
3	2022/TOLCVHYBRES-3	3.00	2.00	3.00	2.67
4	2022/TOLCVHYBRES-4	3.00	3.00	3.00	3.00
5	2022/TOLCVHYBRES-5	3.00	3.00	2.00	2.67
6	2022/TOLCVHYBRES-6	2.00	3.00	3.00	2.67
7	2022/TOLCVHYBRES-7	3.00	3.00	2.00	2.67
<b>SEm±</b>		<b>0.32</b>			
<b>CD at 5%</b>		<b>0.99</b>			
<b>CV%</b>		<b>20.50</b>			

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

TSS (° Brix)					
Sr. No.	Entries/Genotype	RI	RII	RIII	Mean
1	2022/TOLCVHYBRES-1	3.40	3.32	3.55	3.42
2	2022/TOLCVHYBRES-2	4.17	4.19	4.08	4.15
3	2022/TOLCVHYBRES-3	4.22	3.45	3.78	3.82
4	2022/TOLCVHYBRES-4	3.72	4.15	3.42	3.76
5	2022/TOLCVHYBRES-5	3.88	4.22	3.49	3.86
6	2022/TOLCVHYBRES-6	3.88	3.57	3.30	3.58
7	2022/TOLCVHYBRES-7	3.62	3.45	3.14	3.40
SEM±		0.15			
CD at 5%		0.46			
CV%		6.97			

**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	Tospo virus	B.W	Variability	PDI
1	2022/TOLCVHYBRES-1	100	Resistance	Resistance	Resistance	Resistance	Not Found	1.33
2	2022/TOLCVHYBRES-2	100	Resistance	Resistance	Resistance	Resistance	Not Found	0.66
3	2022/TOLCVHYBRES-3	100	Resistance	Resistance	Resistance	Resistance	Not Found	2.66
4	2022/TOLCVHYBRES-4	100	Resistance	Resistance	Resistance	Resistance	Not Found	1.33
5	2022/TOLCVHYBRES-5	100	Resistance	Resistance	Resistance	Resistance	Not Found	1.33
6	2022/TOLCVHYBRES-6	100	Resistance	Resistance	Resistance	Resistance	Not Found	0.66
7	2022/TOLCVHYBRES-7	100	Resistance	Resistance	Resistance	Resistance	Not Found	2.66

**Conclusion:**

Total 7 hybrids were evaluated under AVT-II hybrid of tomato (Determinate) and among them fruit yield were found significant. 2022/TOLCVHYBRES-2 exhibited significantly higher fruit yield (463.59 q/ha). Among all the coded hybrids, 2022/TOLCVHYBRES-2 was found promising at Navsari centre.



