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Comparative performance of various cherry tomato (*Solanum* spp.) accessions and their crosses for various quantitative traits under open-field and polyhouse conditions

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Abstract

The present investigation was carried out at the Experimental Farm, Division of Vegetable Science, SKUAST-K, Shalimar, India during *Kharif* season 2020. Fifty-seven treatments comprising of 45 F₁'s, 10 parents and 2 checks were evaluated for various yield and yield attributing traits in Augmented Block Design (ABD). Analysis of variance revealed significant differences among the parents (accessions) as well as their crosses for all the traits under both environments, in the individual as well as in pooled data analysis. The maximum fruit yield hectare⁻¹ (q) was recorded in the accession EC-520074 (961.69) and cross EC-914092 x EC-914097 (1026.39) in E₁; accession EC-914097 (719.69) and cross EC-914092 x VRT-02 (971.62) in E₂ and accession WIR-3957 (611.93) and cross WIR-5032 x EC – 914092 (898.59) in pooled data analysis indicating that these should be considered for further improvement in future breeding programmes in terms of fruit yield hectare⁻¹.

Keywords: Variance, check, environment, genotype, cross

Introduction

Cherry tomato (*Solanum* spp., 2n=2x=24), one of the important botanical variety of the cultivated tomato (*Solanum lycopersicum* L.) is a member of nightshade family 'Solanaceae', consisting of 96 genera (Akhtar *et al.*, 2013)^[2] and over 3000 species (Melomey *et al.*, 2019; Sharma *et al.*, 2019)^[9, 13] distributed in three subfamilies, Solanoideae (to which *Solanum* belongs), Cestroideae, and Solanineae (Knapp *et al.*, 2004; Akhtar *et al.*, 2013)^[8, 2], all of which are diploid except two natural tetraploid populations of *S. chilense* (2n=4x=48) (Chetelat and Ji, 2007; Grandillo *et al.*, 2011)^[4, 6]. It is typically a day neutral plant, that often requires long growing periods to fetch more harvests and is one of the most promising crop under protected structures or shade net conditions (Vidyadhar *et al.*, 2014) and reasonably tolerant to heat and drought. Being a self-pollinated crop, a definite degree of cross-pollination (0.07-10.0%) also occurs in it when stigma protrudes outside the level of anther (exerted) (Accotto *et al.*, 2005). It is also known as salad tomato as its fruits are consumed more as a fruit rather than as a vegetable (Islam *et al.*, 2012).

Cherry tomato is native to the Andean region encompassing Ecuador and Peru of South America and thereafter it spread around the world following the Spanish colonization of the Americas (Grandillo *et al.*, 2011)^[6]. It was first found throughout tropical and subtropical America, later propagated in the tropics of Asia and Africa (Gharezi *et al.*, 2012; Venkadeswaran *et al.*, 2018)^[5, 14] and is widely distributed in California, Korea, Germany, Mexico and Florida (Anonymous, 2009a)^[3]. Though it became popular as a cash crop in various Asian countries, but it is still new in India as well as in Kashmir, as such its area, production and productivity has not been documented till date. But in Himachal Pradesh, protected cultivation of cherry tomatoes has been gaining importance from previous 5-6 years, on account of favourable growing conditions inside the polyhouse.

It is perennial in its native habitat but is often grown as an annual crop in temperate climate. The growth habit of the plant is usually indeterminate and may reach up to 3 meters in height. The flowers are perfect and hermaphrodite and contain 5 green sepals, 5 yellow petals, 5

stamens alternate with petal position, protective anthers (fused to form an anther cone) that surrounds the stigma and short style. Dehiscence of anthers occurs from base to top (longitudinal) and one or two days after opening of corolla (Rolf, 2009) [12].

Materials and Methods

The present investigation was carried out at Vegetable Experimental Farm, Division of Vegetable Science, SKUAST-Kashmir, Shalimar, India during *Kharif* season, 2020 under two environments namely open environment (E₁) and protected environment (E₂). The altitude of the location is 1685 meters above mean sea level and situated at 34°14' North latitude and 74°86' East longitude. The climate is temperate characterized by mild summers and very cold winters. The mean minimum and maximum temperatures are recorded in the months of January and June respectively. The maximum rainfall is received during the months from March to April with an average around 1380.20 mm for the year 2019-2020.

Fifty-seven treatments comprising of 45 F₁'s, 10 parents and 2 checks were evaluated for various yield and yield attributing traits in Augmented Block Design. The seeds of all accessions and their crosses were first sown in nursery and then transplanted to the main field at a spacing of 60 x 60 cm between rows and plants respectively. Recommended package of practices were followed to raise a healthy crop. The observations were recorded on 16 quantitative traits *viz.*, plant height, number of primary branches plant⁻¹, days to first flowering, days to first fruit set, days to first fruit maturity, number of clusters plant⁻¹, number of flowers cluster⁻¹,

number of fruits cluster⁻¹, number of fruits plant⁻¹, number of locules fruit⁻¹, fruit length, fruit diameter, average fruit weight, pericarp thickness, fruit yield plant⁻¹ and fruit yield hectare⁻¹ by selecting five random plants and the average was worked out.

Results and Discussion

In this study, all the cherry tomato accessions (parental genotypes) and their crosses showed wide range of variability for most of the morphological and growth characters (Table-1.0 to 6.0) under both environments, in the individual as well as data pooled over environments. The estimates of mean values revealed that no accession as well as cross was superior for all the characters under study. However, different accessions as well as crosses were found to reveal superiority for different traits.

Based on the overall performance of various cherry tomato accessions (parental genotypes) and their crosses, the accession EC-520074 (961.69) and cross EC-914092 x EC-914097 (1026.39) in E₁; accession EC-914097 (719.69) and cross EC-914092 x VRT - 02 (971.62) in E₂ and accession WIR-3957 (611.93) and cross WIR - 5032 x EC - 914092 (898.59) in pooled data analysis were found to be best with respect to yield hectare⁻¹ (q) indicating that these should be considered for further improvement in future breeding programmes.

Similar findings with respect to mean performance has also been reported by Renuka *et al.* (2014), Chaudhari *et al.* (2018), Omprasad *et al.* (2018), Panchbhaiya *et al.* (2018), Venkadeswaran *et al.* (2018) [14], Kannaujia, *et al.* (2019) and Tsagaye *et al.* (2020).

Table 1: Mean performance of genotypes for yield and yield attributing traits in cherry tomato (*Solanum* spp.)

Genotypes	Plant height (cm)			Number of primary branches plant ⁻¹			Days to first flowering		
	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled
Suncherry	151.60	496.82	136.40	2.40	2.00	2.20	29.80	14.40	28.50
Suncherry x WIR - 5032	121.20	374.90	157.80	2.00	2.40	1.50	27.20	23.00	29.20
Suncherry x EC - 520074	162.00	289.56	113.10	1.60	1.40	1.80	29.00	22.40	29.70
Suncherry x EC - 914115	153.60	420.62	152.40	1.40	2.40	1.80	29.40	24.40	28.00
Suncherry x EC - 165690	115.20	384.05	140.40	1.40	1.40	2.20	29.80	25.00	25.60
Suncherry x EC - 914092	113.60	429.77	157.50	2.20	2.00	1.90	29.60	23.60	22.40
Suncherry x EC - 520078	163.20	365.76	152.60	1.40	1.60	1.90	31.40	25.80	25.30
Suncherry x WIR - 3957	141.60	374.90	147.80	2.20	2.00	1.70	24.60	24.00	25.20
Suncherry x EC - 914097	121.20	420.62	159.10	2.00	2.20	2.00	27.80	25.00	26.20
Suncherry x VRT - 02	159.60	326.14	167.50	2.40	1.40	1.90	23.40	22.00	28.10
WIR - 5032	152.80	335.28	169.50	2.20	2.00	1.60	21.00	10.40	30.80
WIR - 5032 x EC - 520074	160.80	356.62	145.60	1.60	2.40	1.90	23.80	27.20	29.00
WIR - 5032 x EC - 914115	141.80	274.32	163.00	1.40	2.00	1.80	24.60	18.20	30.30
WIR - 5032 x EC - 165690	163.40	259.08	154.60	2.40	1.40	2.00	26.00	16.60	31.60
WIR - 5032 x EC - 914092	159.40	320.04	164.50	1.80	1.60	1.70	24.40	18.80	31.70
WIR - 5032 x EC - 520078	136.20	405.38	156.40	1.60	1.80	1.70	26.00	17.20	29.50
WIR - 5032 x WIR - 3957	173.60	323.09	157.60	2.20	2.40	2.10	26.40	21.80	30.30
WIR - 5032 x EC - 914097	144.60	259.08	165.00	1.80	1.20	1.70	26.00	23.00	31.50
WIR - 5032 x VRT - 02	164.00	387.10	143.00	2.20	2.20	1.90	27.20	26.00	32.70
EC- 520074	171.00	579.12	145.00	1.60	1.60	2.20	29.00	25.20	31.70
EC- 520074 x EC - 914115	171.60	304.80	124.70	1.40	1.80	2.30	30.20	22.60	33.70
EC- 520074 x EC - 165690	167.40	481.58	138.00	1.80	2.00	1.90	31.40	23.60	33.40
EC- 520074 x EC - 914092	149.20	548.64	124.60	1.80	1.80	2.40	28.20	23.60	33.10
EC- 520074 x EC - 520078	142.00	259.08	144.90	2.00	2.20	2.10	29.80	29.80	29.00

Contd...

Table 1: Mean performance of genotypes for yield and yield attributing traits in cherry tomato (*Solanum* spp.)

Genotypes	Plant height (cm)			Number of primary branches plant ⁻¹			Days to first flowering		
	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled
EC- 520074 x WIR - 3957	165.60	371.86	134.30	1.80	1.60	1.90	30.00	21.80	34.10

EC- 520074 x EC – 914097	160.40	335.28	145.10	1.80	2.20	2.10	30.60	21.20	34.00
EC- 520074 x VRT - 02	149.20	295.66	138.20	2.00	2.00	1.80	31.40	28.00	34.10
EC- 914115	160.00	365.76	120.30	2.00	1.80	2.20	31.80	25.80	33.10
EC- 914115 x EC – 165690	147.20	262.13	311.01	1.80	2.00	2.20	31.20	23.80	23.90
EC- 914115 x EC – 914092	181.80	274.32	332.23	1.60	1.60	1.90	32.20	26.00	22.70
EC- 914115 x EC – 520078	162.20	310.90	402.34	1.60	2.00	1.90	27.80	30.20	24.70
EC- 914115 x WIR – 3957	150.60	304.80	397.77	1.80	2.00	1.80	31.20	21.20	24.70
EC- 914115 x EC – 914097	154.00	316.99	397.76	2.00	1.60	2.10	31.20	21.00	24.50
EC- 914115 x VRT - 02	161.20	411.48	330.71	2.20	2.20	1.70	29.40	29.40	16.20
EC-165690	144.60	356.62	315.47	1.60	1.80	2.20	29.80	29.40	22.70
EC-165690 x EC- 914092	185.40	365.76	289.56	1.80	2.20	1.50	33.20	20.80	17.70
EC-165690 x EC- 520078	152.00	204.22	364.24	2.00	2.40	2.10	31.60	26.60	19.50
EC-165690 x WIR – 3957	134.00	320.04	323.09	1.80	1.80	1.70	33.80	26.00	24.50
EC-165690 x EC-914097	168.60	426.72	441.96	1.60	2.20	1.70	31.60	25.00	23.90
EC-165690 x VRT - 02	121.40	274.32	515.11	2.80	2.20	1.90	31.80	25.00	23.60
EC- 914092	127.00	292.61	315.47	2.40	2.20	1.90	33.60	27.00	25.80
EC-914092 x EC-520078	122.40	280.42	315.47	2.20	2.20	2.10	33.80	27.60	24.60
EC- 914092 x WIR – 3957	129.60	152.40	313.95	2.00	2.00	1.90	33.60	26.20	24.80
EC-914092 x EC-914097	146.40	259.08	292.61	1.80	1.80	1.80	33.20	30.80	28.10
EC-914092 x VRT - 02	114.40	295.66	310.90	2.00	1.80	1.80	34.80	27.60	21.10
EC- 520078	137.20	502.92	384.05	2.80	1.80	2.00	31.40	26.00	29.40
EC-520078 x WIR-3957	146.20	313.94	284.99	2.20	2.60	2.30	28.60	18.00	23.70
EC-520078 x EC-914097	143.60	289.56	373.38	2.00	2.00	2.00	29.40	21.80	25.50

Contd...

Table 1: Mean performance of genotypes for yield and yield attributing traits in cherry tomato (*Solanum* spp.)

Genotypes	Plant height (cm)			Number of primary branches plant ⁻¹			Days to first flowering		
	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled
EC-520078 x VRT - 02	133.60	152.40	283.47	1.60	1.60	2.20	35.20	26.60	26.00
WIR- 3957	135.00	350.52	216.41	2.20	2.00	2.10	33.00	23.20	26.90
WIR-3957 x EC -914097	141.00	243.84	277.37	2.00	2.40	1.80	32.60	25.40	29.20
WIR-3957 x VRT - 02	149.20	326.14	408.43	2.20	2.60	2.20	35.40	27.60	22.00
EC- 914097	143.60	289.56	220.98	1.80	1.40	1.80	34.80	27.00	24.20
EC-914097 x VRT - 02	132.80	213.36	297.18	1.80	1.40	2.20	33.40	28.60	24.30
VRT - 02	120.40	137.16	307.85	2.20	2.20	2.00	35.20	28.60	27.30
Check 1	118.60	310.90	175.26	2.20	2.60	1.80	31.00	18.80	28.60
Check 2	120.00	325.53	318.21	2.40	2.00	2.30	33.40	24.20	21.50
Mean	146.66	331.74	239.23	1.94	1.95	1.95	30.12	24.03	27.08
C.V %	0.00	0.00	20.26	0.00	0.00	14.73	0.00	0.00	8.92
S.E.m ±	0.00	0.002	19.79	0.00	0.00	0.12	0.00	0.00	0.99
C.D at 5%	0.00	0.003	55.08	0.00	0.00	0.33	0.00	0.00	2.75
Range Lowest	113.60	137.16	113.10	1.40	1.20	1.50	21.00	10.40	16.20
Range Highest	185.40	579.12	515.11	2.80	2.60	2.40	35.40	30.80	34.10

*, ** Significant at 5 and 1 per cent levels, respectively

Table 2: Mean performance of genotypes for yield and yield attributing traits in cherry tomato (*Solanum* spp.)

Genotypes	Days to first fruit set			Days to first fruit maturity			Number of clusters plant ⁻¹		
	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled
Suncherry	48.20	26.40	46.90	60.40	51.60	59.10	53.85	49.72	45.89
Suncherry x WIR - 5032	45.60	34.60	47.80	57.80	61.60	59.80	37.92	49.02	36.52
Suncherry x EC – 520074	47.40	34.20	48.20	59.60	56.80	60.30	44.66	51.08	38.08
Suncherry x EC – 914115	48.20	36.20	45.90	60.00	68.60	58.60	28.37	51.75	34.99
Suncherry x EC – 165690	48.20	36.60	44.00	60.40	69.80	56.20	31.32	49.03	48.17
Suncherry x EC – 914092	48.20	35.20	40.90	60.20	69.80	53.00	44.83	46.38	58.90
Suncherry x EC – 520078	49.80	37.40	45.00	62.00	70.40	55.90	29.39	48.74	63.09
Suncherry x WIR – 3957	42.00	35.60	44.10	55.20	68.00	55.80	40.58	52.63	55.50
Suncherry x EC – 914097	46.20	33.20	44.60	58.40	67.60	56.80	32.24	50.49	55.25
Suncherry x VRT - 02	41.80	33.60	48.40	54.00	52.80	58.70	64.10	45.08	43.20
WIR - 5032	39.60	22.20	49.20	51.60	47.60	61.40	63.40	51.50	36.30
WIR – 5032 x EC – 520074	42.20	38.80	47.40	54.40	63.80	59.60	54.40	44.66	46.17
WIR – 5032 x EC – 914115	45.60	29.80	49.20	55.20	48.00	60.90	60.60	43.67	38.20
WIR – 5032 x EC – 165690	44.40	28.20	50.00	56.60	53.20	62.20	65.58	50.18	30.90
WIR – 5032 x EC – 914092	40.80	30.40	50.10	55.00	49.20	62.30	70.00	50.45	38.73
WIR – 5032 x EC – 520078	47.40	28.80	47.90	56.60	52.40	60.10	40.99	47.21	44.16
WIR – 5032 x WIR – 3957	44.80	33.40	49.80	57.00	63.60	60.90	62.63	50.22	61.16
WIR – 5032 x EC – 914097	44.40	34.60	50.50	56.60	74.60	62.10	47.87	47.19	32.76
WIR – 5032 x VRT - 02	49.40	37.60	51.20	57.80	58.40	63.30	53.31	48.97	37.19

EC- 520074	47.40	36.80	50.50	59.60	67.20	62.80	33.08	48.76	35.25
EC- 520074 x EC – 914115	48.60	34.20	52.40	60.80	61.80	64.80	41.63	47.82	32.71
EC- 520074 x EC – 165690	49.80	35.20	52.60	62.00	63.20	64.20	30.97	48.56	22.87
EC- 520074 x EC – 914092	46.60	35.20	52.40	58.80	61.20	63.70	43.65	46.28	36.54
EC- 520074 x EC – 520078	48.20	41.40	47.10	60.40	69.20	59.60	48.69	41.24	45.63

Contd...

Table 2: Mean performance of genotypes for yield and yield attributing traits in cherry tomato (*Solanum* spp.)

Genotypes	Days to first fruit set			Days to first fruit maturity			Number of clusters plant ⁻¹		
	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled
EC- 520074 x WIR – 3957	49.40	33.40	52.50	60.60	60.00	64.70	46.69	44.02	36.35
EC- 520074 x EC – 914097	49.00	32.80	52.40	61.20	64.40	64.60	29.71	47.25	27.24
EC- 520074 x VRT - 02	49.80	39.60	52.50	62.00	67.60	64.70	34.13	49.84	32.09
EC- 914115	50.20	37.40	51.10	62.40	57.40	65.10	27.66	48.64	33.71
EC- 914115 x EC – 165690	49.60	35.40	38.10	61.80	70.20	57.10	27.72	49.81	40.12
EC- 914115 x EC – 914092	50.60	37.60	34.40	62.80	69.60	59.20	49.74	47.42	50.05
EC- 914115 x EC – 520078	46.20	41.80	36.40	58.40	60.60	69.20	53.15	46.53	50.39
EC- 914115 x WIR – 3957	49.60	32.80	36.30	61.80	58.40	70.10	35.16	45.38	47.56
EC- 914115 x EC – 914097	51.80	36.40	34.40	61.80	61.00	67.80	44.11	45.41	51.56
EC- 914115 x VRT - 02	47.80	40.80	27.90	60.00	59.80	50.20	78.20	46.29	48.29
EC-165690	48.20	40.80	34.30	60.40	56.00	55.90	33.54	46.86	44.17
EC-165690 x EC- 914092	52.80	32.40	29.30	63.80	75.40	51.20	31.98	47.42	50.32
EC-165690 x EC- 520078	50.00	38.20	31.10	62.20	76.40	58.00	41.25	46.93	48.72
EC-165690 x WIR – 3957	52.40	37.60	36.10	64.40	79.20	66.50	33.12	46.56	48.08
EC-165690 x EC-914097	50.80	36.60	35.50	62.20	74.80	64.50	38.46	47.56	48.29
EC-165690 x VRT - 02	50.20	36.60	35.20	63.40	69.80	62.20	32.03	43.17	47.42
EC- 914092	52.00	38.60	37.40	64.80	77.20	64.60	32.42	44.73	42.63
EC-914092 x EC-520078	52.80	39.20	36.20	64.80	73.80	66.00	33.00	49.60	48.55
EC- 914092 x WIR – 3957	53.60	37.80	36.40	64.60	72.00	63.80	21.20	46.84	49.23
EC-914092 x EC-914097	51.60	42.40	39.70	63.80	79.40	65.10	24.53	45.70	46.98
EC-914092 x VRT - 02	53.40	39.20	34.60	65.40	79.20	59.70	32.12	50.73	45.40
EC- 520078	51.40	37.60	40.80	62.00	58.20	57.90	40.95	54.29	46.58
EC-520078 x WIR-3957	46.40	29.60	35.30	59.20	53.60	75.90	40.12	45.15	47.18
EC-520078 x EC-914097	47.80	33.40	37.10	60.00	59.60	77.00	51.13	41.57	47.06

Contd...

Table 2: Mean performance of genotypes for yield and yield attributing traits in cherry tomato (*Solanum* spp.)

Genotypes	Days to first fruit set			Days to first fruit maturity			Number of clusters plant ⁻¹		
	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled
EC-520078 x VRT - 02	53.60	38.20	37.60	65.80	70.00	73.50	27.16	44.08	43.95
WIR- 3957	51.40	34.80	38.50	63.60	64.20	72.90	45.53	46.10	48.22
WIR-3957 x EC -914097	51.00	37.20	40.80	63.20	76.80	79.30	27.27	42.09	48.22
WIR-3957 x VRT - 02	53.80	39.20	33.60	66.00	73.00	55.90	27.21	52.91	49.72
EC- 914097	53.20	38.60	35.80	65.40	75.20	64.80	38.06	44.11	42.83
EC-914097 x VRT - 02	51.80	40.20	36.00	64.00	77.20	70.50	26.12	46.11	44.10
VRT - 02	53.60	40.20	38.90	65.80	74.40	74.10	31.72	46.75	48.51
Check 1	48.60	27.20	40.20	64.40	61.20	75.80	35.70	52.40	46.43
Check 2	49.80	35.40	31.30	62.60	70.80	66.00	30.52	51.38	51.89
Mean	48.75	35.59	42.17	60.79	65.38	63.09	40.80	47.62	44.21
C.V %	0.00	0.00	6.51	0.00	0.00	4.97	0.00	0.00	14.21
S.E.m ±	0.00	0.00	1.12	0.00	0.00	1.28	0.00	0.00	2.56
C.D at 5%	0.00	0.00	3.12	0.00	0.00	3.57	0.00	0.00	7.14
Range Lowest	39.60	22.20	27.90	51.60	47.60	50.20	21.20	41.24	22.87
Range Highest	53.80	42.40	52.60	66.00	79.40	79.30	78.20	54.29	63.09

*, ** Significant at 5 and 1 per cent levels, respectively

Table 3: Mean performance of genotypes for yield and yield attributing traits in cherry tomato (*Solanum* spp.)

Genotypes	Number of flowers cluster ⁻¹			Number of fruits cluster ⁻¹			Number of fruits plant ⁻¹		
	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled
Suncherry	8.40	8.60	8.60	6.40	7.20	6.60	125.13	41.00	104.03
Suncherry x WIR - 5032	8.80	7.40	9.70	6.80	6.40	8.30	82.93	32.20	87.10
Suncherry x EC – 520074	9.60	11.40	7.80	8.20	9.20	6.00	121.80	65.60	67.13
Suncherry x EC – 914115	9.80	8.20	7.00	8.40	5.80	6.10	52.40	36.80	57.87
Suncherry x EC – 165690	8.20	6.20	8.60	6.60	5.40	7.00	55.33	26.20	115.43
Suncherry x EC – 914092	7.40	6.40	9.40	5.40	6.20	7.80	78.93	21.20	199.44

Suncherry x EC – 520078	7.00	6.80	9.20	6.40	6.20	7.40	44.47	29.60	188.40
Suncherry x WIR – 3957	7.00	6.80	8.70	5.80	4.80	7.50	71.27	37.00	163.67
Suncherry x EC – 914097	7.40	6.80	8.30	6.00	6.20	6.70	51.13	35.60	134.27
Suncherry x VRT - 02	9.80	10.80	9.20	8.00	8.80	7.90	179.73	33.80	109.33
WIR - 5032	8.20	10.20	8.40	6.80	7.80	7.30	197.47	53.80	75.00
WIR – 5032 x EC – 520074	10.60	6.60	8.30	8.80	6.40	7.10	201.40	17.20	112.47
WIR – 5032 x EC – 914115	9.80	10.80	9.40	8.00	11.20	8.10	194.87	32.80	97.80
WIR – 5032 x EC – 165690	8.60	7.40	7.80	6.80	6.40	7.10	181.93	35.60	53.24
WIR – 5032 x EC – 914092	9.00	8.60	8.40	7.80	7.20	7.00	232.20	46.60	83.30
WIR – 5032 x EC – 520078	8.40	9.60	8.30	7.20	7.80	7.00	95.13	38.20	106.00
WIR – 5032 x WIR – 3957	8.40	8.40	8.70	6.60	7.40	8.20	151.13	45.60	155.87
WIR – 5032 x EC – 914097	8.20	7.40	8.50	6.80	6.40	7.20	117.40	28.20	62.40
WIR – 5032 x VRT - 02	8.60	11.60	6.50	7.60	9.60	5.70	146.33	54.00	60.60
EC- 520074	9.80	9.80	6.70	8.20	8.80	5.70	72.33	43.60	58.87
EC- 520074 x EC – 914115	7.80	6.60	6.30	6.80	6.60	5.80	91.40	28.00	48.97
EC- 520074 x EC – 165690	9.00	8.60	7.20	7.80	7.40	5.90	58.60	38.80	40.90
EC- 520074 x EC – 914092	8.40	8.40	6.40	7.60	7.60	6.00	108.20	30.20	58.64
EC- 520074 x EC – 520078	8.20	10.20	8.50	6.60	8.40	6.50	116.73	15.00	105.84

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Table 3: Mean performance of genotypes for yield and yield attributing traits in cherry tomato (*Solanum* spp.)

Genotypes	Number of flowers cluster ⁻¹			Number of fruits cluster ⁻¹			Number of fruits plant ⁻¹		
	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled
EC- 520074 x WIR – 3957	10.40	11.60	7.80	8.60	10.40	6.20	141.87	32.60	69.17
EC- 520074 x EC – 914097	8.40	8.20	7.70	7.60	7.40	5.80	53.73	33.60	35.67
EC- 520074 x VRT - 02	7.20	6.40	7.40	6.60	6.20	6.50	60.67	31.00	54.50
EC- 914115	8.40	9.80	5.90	7.60	8.20	4.80	45.80	42.80	44.57
EC- 914115 x EC – 165690	8.60	7.80	7.50	7.40	6.60	6.30	46.60	36.00	41.04
EC- 914115 x EC – 914092	8.20	8.40	9.40	6.60	7.80	7.80	120.00	34.80	48.90
EC- 914115 x EC – 520078	8.00	10.20	7.20	7.20	8.60	5.60	139.40	37.00	31.50
EC- 914115 x WIR – 3957	8.60	9.60	6.60	6.80	8.60	6.20	72.60	31.00	25.40
EC- 914115 x EC – 914097	9.40	9.20	6.80	9.20	8.80	5.50	128.73	30.60	36.30
EC- 914115 x VRT - 02	8.00	9.40	10.50	7.20	8.20	8.30	183.00	34.20	43.80
EC-165690	9.20	7.80	8.70	8.20	6.20	8.80	71.93	27.00	25.00
EC-165690 x EC- 914092	7.80	6.80	8.00	6.20	5.40	6.80	52.87	22.00	41.10
EC-165690 x EC- 520078	5.80	7.80	9.00	5.40	6.60	7.60	68.33	28.20	41.90
EC-165690 x WIR – 3957	7.20	7.20	9.50	6.00	6.20	8.00	52.87	24.60	41.10
EC-165690 x EC-914097	7.20	6.80	8.20	6.20	6.60	7.70	73.40	27.60	35.80
EC- 520074 x WIR – 3957	6.20	7.80	8.50	5.20	6.80	7.50	44.33	15.60	34.50
EC- 520074 x EC – 914097	6.60	7.80	10.90	6.20	6.20	9.40	51.93	20.20	23.80
EC- 520074 x VRT - 02	6.00	7.40	7.30	5.40	6.20	6.80	46.00	33.60	32.30
EC- 914115	6.40	6.20	8.80	4.80	6.20	7.40	22.87	21.80	39.40
EC- 914115 x EC – 165690	8.00	7.40	9.30	7.00	6.20	8.20	58.93	21.20	35.90
EC- 914115 x EC – 914092	5.80	7.20	9.40	5.80	5.60	8.70	43.40	36.00	30.80
EC- 914115 x EC – 520078	7.00	8.20	8.60	6.20	5.80	7.20	73.87	46.00	30.60
EC- 914115 x WIR – 3957	8.40	10.80	7.30	6.20	10.80	6.00	82.27	38.00	25.10
EC- 914115 x EC – 914097	8.60	10.20	7.00	6.80	9.20	6.40	129.40	14.60	26.10

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Table 3: Mean performance of genotypes for yield and yield attributing traits in cherry tomato (*Solanum* spp.)

Genotypes	Number of flowers cluster ⁻¹			Number of fruits cluster ⁻¹			Number of fruits plant ⁻¹		
	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled
EC-520078 x VRT - 02	7.60	9.40	7.80	6.20	8.60	6.50	37.87	26.40	17.90
WIR- 3957	8.00	9.60	6.80	6.20	8.60	6.20	100.47	32.80	27.70
WIR-3957 x EC -914097	8.20	9.20	7.30	6.00	8.20	5.90	38.87	16.60	28.60
WIR-3957 x VRT - 02	7.20	5.80	9.50	5.60	5.20	8.30	32.47	35.00	42.00
EC- 914097	7.20	12.20	9.80	6.40	10.20	8.90	73.20	35.20	20.50
EC-914097 x VRT - 02	7.60	6.20	9.40	6.60	4.60	8.40	35.80	16.20	24.70
VRT - 02	6.60	6.20	9.00	5.40	6.20	7.70	45.73	18.20	35.10
Check 1	5.20	4.80	6.20	4.20	4.40	5.40	43.40	17.60	17.20
Check 2	6.40	7.80	6.30	5.40	7.40	5.90	41.07	36.40	33.10
Mean	8.00	8.33	8.16	6.73	7.25	6.99	90.21	31.95	61.19
C.V %	0.00	0.00	12.04	0.00	0.00	13.11	0.00	0.00	35.53
S.E.m ±	0.00	0.00	0.40	0.00	0.00	0.37	0.00	0.00	8.88
C.D at 5%	0.00	0.00	1.12	0.00	0.00	1.04	0.00	0.00	24.71
Range Lowest	5.20	4.80	5.90	4.20	4.40	4.80	22.87	14.60	17.20

Range Highest	10.60	12.20	10.90	9.20	11.20	9.40	232.20	16.60	199.44
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*, ** Significant at 5 and 1 per cent levels, respectively

Table 4: Mean performance of genotypes for yield and yield attributing traits in cherry tomato (*Solanum* spp.)

Genotypes	Number of locules fruit ⁻¹			Fruit length (cm)			Fruit diameter (cm)		
	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled
Suncherry	2.00	2.00	2.00	1.46	1.79	1.57	1.50	1.83	1.57
Suncherry x WIR - 5032	2.00	2.00	2.00	1.68	1.91	1.44	1.64	1.92	1.50
Suncherry x EC - 520074	2.00	2.00	2.10	1.54	1.54	2.29	1.56	1.59	2.22
Suncherry x EC - 914115	2.00	2.00	2.20	1.34	1.41	2.10	1.44	1.48	2.12
Suncherry x EC - 165690	2.20	2.00	2.40	2.30	2.93	1.93	2.12	2.80	1.86
Suncherry x EC - 914092	2.00	2.00	2.00	2.28	2.28	1.32	2.32	2.37	1.28
Suncherry x EC - 520078	2.00	2.00	2.00	2.20	2.34	1.69	2.22	2.15	1.64
Suncherry x WIR - 3957	2.40	2.00	2.00	2.00	2.24	1.68	2.02	2.46	1.75
Suncherry x EC - 914097	2.40	2.00	2.00	2.18	1.79	1.61	2.14	2.68	1.70
Suncherry x VRT - 02	2.40	2.00	2.00	1.68	1.65	1.52	1.58	1.73	1.51
WIR - 5032	2.00	2.00	2.20	1.26	1.39	1.75	1.24	1.39	1.76
WIR - 5032 x EC - 520074	2.00	2.00	2.50	1.38	0.87	1.85	1.32	0.83	1.84
WIR - 5032 x EC - 914115	2.00	2.00	2.00	1.80	1.19	2.14	1.72	1.21	2.09
WIR - 5032 x EC - 165690	2.00	2.00	2.00	1.58	1.62	2.14	1.56	1.60	2.24
WIR - 5032 x EC - 914092	2.00	2.00	2.00	1.68	1.68	2.42	1.76	1.78	2.47
WIR - 5032 x EC - 520078	2.00	2.00	2.50	1.68	2.43	1.65	1.74	2.31	1.73
WIR - 5032 x WIR - 3957	2.00	2.00	2.00	1.98	1.73	1.77	2.14	1.73	1.75
WIR - 5032 x EC - 914097	2.00	2.00	3.10	1.24	1.22	1.75	1.26	1.24	1.92
WIR - 5032 x VRT - 02	2.00	2.00	2.40	1.20	1.16	2.32	1.26	1.38	2.41
EC- 520074	2.00	2.00	2.60	1.84	1.23	2.11	1.76	1.25	2.34
EC- 520074 x EC - 914115	2.40	2.00	3.20	1.76	1.60	2.39	1.82	1.66	2.56
EC- 520074 x EC - 165690	2.00	2.00	2.50	1.74	1.84	2.49	1.70	1.83	2.62
EC- 520074 x EC - 914092	3.00	2.00	2.00	1.80	1.73	2.05	1.80	2.33	2.01
EC- 520074 x EC - 520078	2.00	2.00	2.00	1.90	1.96	1.28	1.88	2.00	1.30

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Table 4: Mean performance of genotypes for yield and yield attributing traits in cherry tomato (*Solanum* spp.)

Genotypes	Number of locules fruit ⁻¹			Fruit length (cm)			Fruit diameter (cm)		
	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled
EC- 520074 x WIR - 3957	2.00	2.00	2.00	1.62	1.68	2.02	1.60	1.65	2.08
EC- 520074 x EC - 914097	2.00	2.00	3.20	2.66	2.88	2.54	2.58	2.76	2.66
EC- 520074 x VRT - 02	2.00	2.00	3.20	2.22	1.50	2.24	2.32	1.56	2.38
EC- 914115	2.00	2.00	3.00	2.06	2.14	2.45	2.16	2.26	2.49
EC- 914115 x EC - 165690	2.00	2.00	2.00	2.52	2.54	2.15	2.60	2.66	2.27
EC- 914115 x EC - 914092	2.00	2.00	2.00	2.32	2.74	1.73	2.34	2.48	1.76
EC- 914115 x EC - 520078	2.00	2.00	2.00	1.74	1.80	2.17	1.78	1.75	2.14
EC- 914115 x WIR - 3957	3.00	2.00	2.00	1.56	1.72	2.31	1.68	1.80	2.26
EC- 914115 x EC - 914097	2.00	2.00	2.00	1.70	1.38	2.02	1.70	1.98	2.57
EC- 914115 x VRT - 02	2.00	2.40	2.00	1.84	1.72	1.52	1.80	1.72	1.56
EC-165690	3.20	2.00	2.00	1.54	1.56	1.03	1.50	1.60	1.02
EC-165690 x EC - 914092	3.00	2.00	2.00	1.96	3.00	1.65	2.34	3.22	1.69
EC-165690 x EC - 520078	2.40	2.40	2.00	2.10	2.58	2.08	2.24	2.62	2.02
EC-165690 x WIR - 3957	2.40	2.60	2.00	2.54	3.32	1.19	2.58	3.34	1.31
EC-165690 x EC-914097	2.00	2.00	2.00	2.32	3.37	1.42	2.36	3.31	1.46
EC-165690 x VRT - 02	3.20	2.00	2.00	1.90	2.60	1.79	2.32	2.74	2.08
EC- 914092	4.00	2.00	2.00	2.16	2.52	1.82	2.58	2.77	1.83
EC-914092 x EC-520078	2.40	2.00	2.00	2.62	2.96	2.19	2.54	3.04	2.16
EC- 914092 x WIR - 3957	3.00	2.00	2.00	2.34	2.66	2.34	2.44	2.82	2.46
EC-914092 x EC-914097	2.00	2.40	2.00	2.64	3.26	2.27	2.80	3.42	2.12
EC-914092 x VRT - 02	2.00	2.00	2.00	2.10	3.28	1.55	2.08	3.08	1.89
EC- 520078	2.00	2.00	2.20	2.00	2.36	1.64	1.94	2.46	1.66
EC-520078 x WIR-3957	2.00	2.00	2.20	1.28	1.26	2.79	1.34	1.29	2.92
EC-520078 x EC-914097	2.00	2.00	2.30	1.28	1.33	3.35	1.26	1.31	3.33

Contd...

Table 4: Mean performance of genotypes for yield and yield attributing traits in cherry tomato (*Solanum* spp.)

Genotypes	Number of locules fruit ⁻¹			Fruit length (cm)			Fruit diameter (cm)		
	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled
EC-520078 x VRT - 02	2.00	2.00	2.00	2.48	3.76	2.56	2.56	3.96	2.76

WIR- 3957	2.00	2.00	2.00	1.56	1.49	2.81	1.60	1.58	2.93
WIR-3957 x EC -914097	2.00	2.00	2.20	3.04	3.66	3.27	2.62	3.16	3.25
WIR-3957 x VRT - 02	4.40	2.40	2.00	2.04	2.40	1.81	2.70	2.89	1.88
EC- 914097	2.20	2.40	2.00	2.04	2.86	2.55	2.12	2.94	2.64
EC-914097 x VRT - 02	4.20	2.00	2.00	2.44	2.88	2.58	2.64	3.04	2.37
VRT - 02	2.00	2.00	2.40	2.54	3.26	2.63	2.42	2.78	2.92
Check 1	4.00	4.00	2.00	2.36	2.08	3.07	2.56	3.14	2.91
Check 2	2.00	2.00	3.00	2.50	2.61	2.35	2.70	2.62	2.88
Mean	2.32	2.08	2.20	1.96	2.15	2.05	2.01	2.23	2.12
C.V %	4.54	5.18	17.49	0.00	0.00	17.95	0.00	0.00	16.42
S.E.m ±	0.06	0.06	0.16	0.00	0.00	0.15	0.00	0.00	0.14
C.D at 5%	0.12	0.12	0.44	0.00	0.00	0.42	0.00	0.00	0.40
Range Lowest	2.00	2.00	2.00	1.20	0.87	1.03	1.24	0.83	1.02
Range Highest	4.40	4.00	3.20	3.04	3.76	3.35	2.80	3.96	3.33

*, ** Significant at 5 and 1 per cent levels, respectively

Table 5: Mean performance of genotypes for yield and yield attributing traits in cherry tomato (*Solanum* spp.)

Genotypes	Average fruit weight (g)			Pericarp thickness (mm)			Fruit yield plant ⁻¹ (Kg)		
	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled
Suncherry	11.26	17.84	14.99	1.70	2.08	1.80	1.41	0.73	1.48
Suncherry x WIR - 5032	18.73	23.22	9.82	1.90	3.92	1.97	1.55	0.75	0.90
Suncherry x EC – 520074	11.11	13.89	38.98	2.00	2.08	2.83	1.35	0.91	2.59
Suncherry x EC – 914115	8.52	10.53	28.83	1.94	2.28	2.71	0.45	0.39	1.66
Suncherry x EC – 165690	41.42	74.26	23.41	2.68	5.02	2.94	2.29	1.95	1.84
Suncherry x EC – 914092	36.55	41.15	7.27	2.98	4.58	1.61	2.88	0.87	1.45
Suncherry x EC – 520078	29.81	27.62	13.00	2.48	3.96	1.96	1.33	0.82	2.45
Suncherry x WIR – 3957	27.85	42.76	15.04	2.94	3.96	1.99	1.99	1.58	2.27
Suncherry x EC – 914097	36.79	40.42	12.96	3.92	4.02	1.50	1.88	1.44	1.85
Suncherry x VRT - 02	10.02	19.10	12.01	1.96	2.24	1.43	1.80	0.65	1.09
WIR - 5032	7.60	8.84	17.99	1.28	2.12	1.95	1.50	0.48	1.36
WIR – 5032 x EC – 520074	6.93	5.94	19.59	1.94	0.11	1.92	1.40	0.10	2.21
WIR – 5032 x EC – 914115	13.52	6.14	29.58	1.94	1.12	2.80	2.63	0.20	2.10
WIR – 5032 x EC – 165690	12.48	14.24	33.40	1.98	1.98	2.40	2.27	0.51	1.81
WIR – 5032 x EC – 914092	12.30	13.31	38.45	1.96	2.04	3.16	2.86	0.62	2.70
WIR – 5032 x EC – 520078	17.77	38.86	16.16	2.02	2.94	2.22	1.69	1.48	1.71
WIR – 5032 x WIR – 3957	19.03	18.54	15.45	1.92	1.96	2.08	2.88	0.85	2.41
WIR – 5032 x EC – 914097	6.90	4.80	26.13	1.08	1.46	2.93	0.81	0.14	1.54
WIR – 5032 x VRT - 02	5.92	6.32	39.52	1.06	1.64	2.95	0.87	0.34	2.36
EC- 520074	18.09	6.49	33.03	1.80	1.08	2.47	1.31	0.28	2.03
EC- 520074 x EC – 914115	18.51	15.73	50.52	2.02	2.04	3.27	1.69	0.44	2.47
EC- 520074 x EC – 165690	17.47	21.71	44.89	1.88	2.04	2.89	1.02	0.84	1.97
EC- 520074 x EC – 914092	17.79	19.49	23.70	1.94	2.02	2.21	1.92	0.59	1.37
EC- 520074 x EC – 520078	21.39	24.11	7.48	1.90	2.56	1.16	2.50	0.36	0.79

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Table 5: Mean performance of genotypes for yield and yield attributing traits in cherry tomato (*Solanum* spp.)

Genotypes	Average fruit weight (g)			Pericarp thickness (mm)			Fruit yield plant ⁻¹ (Kg)		
	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled
EC- 520074 x WIR – 3957	11.49	14.89	28.79	1.70	2.04	2.61	1.63	0.49	1.46
EC- 520074 x EC – 914097	47.68	73.06	46.42	3.90	2.76	3.50	2.56	2.45	1.70
EC- 520074 x VRT - 02	37.08	13.90	35.19	3.02	2.00	2.19	2.25	0.43	1.68
EC- 914115	29.71	35.91	31.38	1.78	2.68	2.81	1.36	1.54	1.40
EC- 914115 x EC – 165690	52.28	64.43	28.44	3.88	3.70	2.81	2.44	2.32	1.17
EC- 914115 x EC – 914092	24.62	55.67	18.56	2.44	3.98	3.00	2.95	1.94	0.83
EC- 914115 x EC – 520078	16.15	17.18	42.40	2.46	1.98	3.65	2.25	0.64	1.17
EC- 914115 x WIR – 3957	16.17	19.37	34.39	1.98	2.06	4.27	1.17	0.60	0.85
EC- 914115 x EC – 914097	15.41	18.19	41.59	2.38	1.98	3.99	1.98	0.56	1.51
EC- 914115 x VRT - 02	15.49	18.53	13.97	1.78	1.94	2.18	2.83	0.63	0.56
EC-165690	16.58	14.05	6.04	3.26	2.02	0.61	1.19	0.38	0.15
EC-165690 x EC- 914092	35.67	92.61	13.78	2.60	3.94	2.01	1.89	2.04	0.56
EC-165690 x EC- 520078	34.36	50.17	28.70	1.98	3.24	2.45	2.35	1.41	1.17
EC-165690 x WIR – 3957	44.68	118.20	5.56	3.92	4.42	1.55	2.36	2.91	0.24
EC-165690 x EC-914097	38.60	115.25	11.11	2.88	4.72	1.56	2.83	3.18	0.36
EC-165690 x VRT - 02	27.46	59.58	20.60	2.06	4.84	2.03	1.22	0.93	0.72
EC- 914092	49.09	48.13	19.50	2.52	4.66	2.30	2.55	0.97	0.42
EC-914092 x EC-520078	51.96	87.03	43.48	4.02	4.88	2.38	2.39	2.92	1.44
EC- 914092 x WIR – 3957	37.54	67.93	50.17	2.10	3.04	3.19	0.86	1.48	1.93

EC-914092 x EC-914097	52.24	119.29	36.43	3.68	5.48	2.98	3.08	2.53	1.29
EC-914092 x VRT - 02	25.05	97.15	18.78	2.66	3.96	2.02	1.09	3.50	0.58
EC- 520078	22.35	46.88	16.29	1.76	3.94	1.98	1.65	2.16	0.51
EC-520078 x WIR-3957	7.67	8.69	71.39	1.18	1.04	3.59	0.63	0.33	1.73
EC-520078 x EC-914097	7.29	7.20	116.73	1.14	0.98	4.57	0.94	0.11	3.04

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Table 5: Mean performance of genotypes for yield and yield attributing traits in cherry tomato (*Solanum* spp.)

Genotypes	Average fruit weight (g)			Pericarp thickness (mm)			Fruit yield plant ⁻¹ (Kg)		
	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled	E ₁	E ₂	Pooled
EC-520078 x VRT - 02	45.84	124.64	53.86	3.44	5.02	4.75	1.74	3.29	0.95
WIR- 3957	11.75	14.33	77.48	1.78	2.10	3.96	1.18	0.47	2.20
WIR-3957 x EC -914097	59.34	104.77	108.22	4.28	4.72	4.72	2.31	1.74	3.01
WIR-3957 x VRT - 02	33.49	67.82	27.79	2.72	4.28	2.49	1.09	2.37	1.25
EC- 914097	22.52	73.59	65.92	1.78	5.56	3.00	1.65	2.59	1.70
EC-914097 x VRT - 02	47.87	89.31	59.55	2.60	4.86	3.41	1.71	1.45	1.11
VRT - 02	33.80	72.50	70.71	2.06	4.82	4.92	1.55	1.32	2.48
Check 1	28.95	55.62	80.91	3.56	5.34	4.84	1.26	0.98	1.39
Check 2	39.04	50.69	59.39	3.54	4.00	4.67	1.60	1.85	1.88
Mean	25.74	42.66	34.31	2.39	3.09	2.74	1.80	1.23	1.52
C.V %	0.00	0.19	45.03	0.00	0.07	26.31	2.63	1.58	34.92
S.E.m ±	0.00	0.05	6.31	0.00	0.00	0.29	0.03	0.01	0.22
C.D at 5%	0.00	0.01	17.56	0.00	0.00	0.82	0.05	0.02	0.60
Range Lowest	5.92	4.80	5.56	1.06	0.11	0.61	0.45	0.10	0.15

*, ** Significant at 5 and 1 per cent levels, respectively

Table 6: Mean performance of genotypes for yield and yield attributing traits in cherry tomato (*Solanum* spp.)

Genotypes	Fruit yield hectare ⁻¹ (g)		
	E ₁	E ₂	Pooled
Suncherry	469.80	203.25	493.83
Suncherry x WIR - 5032	517.86	207.81	300.07
Suncherry x EC - 520074	451.12	253.22	862.90
Suncherry x EC - 914115	149.02	107.71	551.89
Suncherry x EC - 165690	764.10	540.55	613.94
Suncherry x EC - 914092	961.69	242.47	483.14
Suncherry x EC - 520078	441.95	227.25	817.72
Suncherry x WIR - 3957	661.82	439.57	757.98
Suncherry x EC - 914097	627.20	399.85	614.35
Suncherry x VRT - 02	600.68	179.41	362.60
WIR - 5032	500.65	132.17	452.71
WIR - 5032 x EC - 520074	465.64	28.42	737.03
WIR - 5032 x EC - 914115	878.46	56.07	698.73
WIR - 5032 x EC - 165690	756.97	140.93	601.84
WIR - 5032 x EC - 914092	952.46	172.40	898.59
WIR - 5032 x EC - 520078	563.51	412.49	571.03
WIR - 5032 x WIR - 3957	958.62	234.98	803.08
WIR - 5032 x EC - 914097	270.08	37.69	513.28
WIR - 5032 x VRT - 02	288.90	94.89	785.07
EC- 520074	436.30	78.72	675.32
EC- 520074 x EC - 914115	564.07	122.46	823.35
EC- 520074 x EC - 165690	341.34	234.12	656.35
EC- 520074 x EC - 914092	641.62	163.61	456.43
EC- 520074 x EC - 520078	832.44	100.56	262.58

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Table 6: Mean performance of genotypes for yield and yield attributing traits in cherry tomato (*Solanum* spp.)

Genotypes	Fruit yield hectare ⁻¹ (g)		
	E ₁	E ₂	Pooled
EC- 520074 x WIR - 3957	543.29	134.99	486.09
EC- 520074 x EC - 914097	854.17	682.05	565.78
EC- 520074 x VRT - 02	750.01	119.83	560.44
EC- 914115	453.68	427.02	467.18
EC- 914115 x EC - 165690	812.25	644.46	368.90
EC- 914115 x EC - 914092	984.93	538.24	230.52
EC- 914115 x EC - 520078	750.66	176.65	324.13

EC- 914115 x WIR – 3957	391.40	166.91	234.86
EC- 914115 x EC – 914097	661.39	154.76	419.71
EC- 914115 x VRT - 02	944.78	176.13	155.79
EC-165690	397.78	105.52	42.25
EC-165690 x EC- 914092	628.79	566.08	156.67
EC-165690 x EC- 520078	782.73	393.13	323.74
EC-165690 x WIR – 3957	787.42	807.82	66.29
EC-165690 x EC-914097	944.64	883.71	100.59
EC-165690 x VRT - 02	405.99	258.32	198.87
EC- 914092	849.86	270.19	117.78
EC-914092 x EC-520078	796.85	812.38	400.94
EC- 914092 x WIR – 3957	286.30	411.47	535.74
EC-914092 x EC-914097	1026.39	702.62	357.45
EC-914092 x VRT - 02	362.52	971.62	160.84
EC- 520078	550.34	599.17	140.83
EC-520078 x WIR-3957	210.41	91.82	479.61
EC-520078 x EC-914097	314.75	29.30	845.77

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Table 6: Mean performance of genotypes for yield and yield attributing traits in cherry tomato (*Solanum* spp.)

Genotypes	Fruit yield hectare ⁻¹ (g)		
	E ₁	E ₂	Pooled
EC-520078 x VRT - 02	578.68	914.16	264.26
WIR- 3957	393.49	130.71	611.93
WIR-3957 x EC -914097	768.97	483.22	837.12
WIR-3957 x VRT - 02	362.59	659.46	345.50
EC- 914097	549.52	719.69	471.73
EC-914097 x VRT - 02	571.36	402.01	306.97
VRT - 02	515.36	366.63	689.58
Check 1	419.00	272.02	384.32
Check 2	534.55	512.69	520.99
Mean	601.42	340.27	473.10
C.V %	2.64	1.61	34.25
S.E.m ±	9.10	3.13	66.15
C.D at 5%	18.03	6.20	184.16
Range Lowest	149.02	28.42	42.25
Range Highest	1026.39	971.62	898.59

*, ** Significant at 5 and 1 per cent levels, respectively

Conclusion

From this study, it is concluded that all the cherry tomato accessions (parental genotypes) and their crosses can be effectively distinguished by its various morphological and growth characters. In future, further studies need to be carried over locations or years to facilitate further utilization in breeding programme.

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