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YIELD AND YIELD COMPONENTS OF TURMERIC (*CURCUMA LONGA* L.) GENOTYPES

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ABSTRACT

Collection, evaluation and characterization of turmeric (*Curcuma longa* L.) genotypes prevailed in Southern Karnataka was carried out during 2018-19 and 2019-20 of *Kharif* season. Over 66 turmeric genotypes were studied to elucidate morphometric and genetic diversity. A significant difference among the genotypes for growth, yield and quality traits was recorded for all the traits was observed. Result from the pooled data, the maximum number mother rhizomes, primary fingers and secondary finger was found with genotype TC-36 (4.14, 13.65, and 18.96). Along with the highest fresh weight of mother rhizome, primary and secondary finger was also recorded with TC-36 (95.35, 302.72 and 210.23 g). Genotype TC-36 registered maximum girth and length of mother rhizomes, primary and secondary finger (14.19, 8.49 and 6.18 cm; 9.99, 9.23 and 7.56 cm). The maximum fresh rhizome yield (49.27 t ha⁻¹), curing percentage (25.77) and cured yield (12.70 t ha⁻¹) was also registered with TC-36. Overall from this evaluation data the genotypes *viz.*, TC-36, TC-61, TC-60-2, TC-60, TC-51, TC-27, TC-33, TC-37, TC-19 and TC-21 contributing towards yield and perform well in southern region of Karnataka. These genotypes need to be studied in larger field trials for their stability to growth, yield and quality and also in multilocation trail.

Key words : TC-Turmeric, Mother rhizomes, Primary and Secondary Fingers, Genotype.

Introduction

Turmeric (*Curcuma longa* L.) is an important sacred and ancient spice of India popularly known as Indian saffron. It is a major rhizomatous spice produced and exported from India. Turmeric is an herbaceous perennial, native to tropical South-East Asia, belonging to the family Zingiberaceae, under the order Scitaminae. It is believed to symbolize well being and good fortune. In India, it is widely used in religious functions and ceremonies. Turmeric is a multipurpose crop valued for its colouring pigment due to presence of deep yellow colour (0.2-8% curcumin), spicy flavour or pungency (2.2-4.2% termerol) and aromatic flavour of volatile oil (1.5-5%) (Mirjanaik and Vishwanath, 2020). It is widely used as a spice and

condiment in the preparation of pickles and curries and as a colouring agent in textile, food and confectionery industries. In Ayurvedic medicine, turmeric is primarily used as a treatment for anti-inflammatory, hepatoprotective, antitumor, antiviral, wound healing and anti-cancerous properties and is also beneficial in treating gastrointestinal and respiratory disorders. Curcumin and curcuminoids (6%) be one of the most promising compounds for Alzheimer's disease therapies (Shiyou *et al.*, 2011).

In India, turmeric is mainly grown in Telangana (21.07%), Tamil Nadu (12.60%), Odisha (11.70%), Andhra Pradesh (8.06%), Assam (7.19%), Karnataka (6.29%), Maharashtra (6.67%) and almost all states

except some states of extreme North India in open as well as in partial shade condition (Anonymous, 2018). In Karnataka, it is largely cultivated in Chamarajnar (8,378 ha), Belagavi (5,018 ha), Bagalkot (3,097 ha), Mysore (2,527 ha), Mandya (232 ha), Bidar (339 ha), Kalburgi (1041 ha) and Chikkamagalore (184 ha) districts in an area of 24,912 hectare with a production of 2,50,829 metric tonnes of fresh turmeric (Anonymous, 2019). Farmers from turmeric growing areas of southern region Karnataka was keeping seed rhizome name as their family or grandparents, hence we taken up this study to check their genetic relatedness of collected genotypes with commercially released variety which helps to identify new genotypes. In this paper, we evaluated and studied yield and yield attributing traits of collected turmeric genotypes.

Materials and Methods

The experimental material comprised of 63 genotypes with check varieties-Prabha, Prathibha and Salem as checks and they were collected from potentially turmeric growing areas of southern districts *viz.*, Chamarajanagar, Mysore, Mandya and Shivamogga of the farmer's field (Table 1). Totally 63 genotype were collected from 35 villages. Collected landraces/genotypes were serially numbered by prefixing the caption TC-Turmeric.

The experiment was laid out in Augmented Block Design. About 30-40g weight healthy mother rhizome of different genotypes were line planted during May 2018-19 and 2019-20 during *kharif* season with a spacing of 30 × 30 cm between row to row and plant to plant were

Table 1 : Genotypes collected from major turmeric growing districts of Karnataka.

District	Taluk	Villages	No. of sample	No. of genotype
Chamarajanagar	Chamarajanagar	Thamadahalli	6	20
		Udigala	3	
		K K Undi	1	
		Shivapura Yelle	1	
		Chandikote	1	
		Karinanajupura	2	
		Haradanahalli	2	
		Ramasamudra	1	
		Somavarpet	1	
		COHB, Haradanahalli	2	
	Gundlupet	Lakkur	2	14
		Angala	1	
		Raghavapura	2	
		Terkanambi	2	
		Vijayapura	3	
		Begur	1	
		Hebbur	1	
		Malahalli	1	
Patterahalli	1			
Mysuru	Nanjanagud	Devanur	2	12
		Chikka Kowlande	1	
		Dodda Kowlande	4	
		Konanur	2	
		Konapurada Yelle	2	
		Chunchana Halli Yalle	1	

Table 1 continued...

Table 1 continued...

Mandya	Malavalli	Doddaboovalli	2	8
		Mallinathapura	4	
		Purigali	2	
Shimoga	Shikaripura	Kotta	2	8
		Nimbegondi	2	
		Issur	1	
		Gama	1	
		Haragoppa	1	
	Haragoppa Thanda	1		
	Thirthahalli	Uthalli	1	1
Total			63	
Known varieties from SAUs	COH(S)	Prabha	1	3
	UAHS, KVK	Prathibha	1	
	Hort. Farm Yellapura	Salem	1	

maintained. All the agronomic package of practices was adapted to grow a healthy crop (Anonymous, 2017). Observations were recorded for yield and yield attributing traits *viz.*, number, length, girth, fresh weight of mother rhizomes, primary and secondary fingers, fresh rhizome yield, curing percentage and cured yield. The analysis of variance for testing the variation among genotypes was carried out as per the method suggested by Panse and Sukhatm (1967).

Results

The genotypes varied significantly with respect to number of mother rhizomes, primary and secondary fingers in pooled data (Table 2).

From the pooled data, the maximum number mother rhizomes, primary fingers and secondary finger was found with TC-36 (4.14, 13.65 and 18.96) and followed by TC-50, TC-25 (3.74, 3.72); TC-27, TC-21 (13.33, 13.17) and TC-60, TC-53 (18.94, 18.30), respectively. Minimum number of mother rhizome was found with TC-10 (1.59) which was *on par* with TC-60-2 (1.84) and TC-57 (1.93) and least number of primary and secondary finger was found with TC-56 (4.96; 10.10), respectively.

The highest fresh weight of mother rhizome, primary fingers and secondary fingers was recorded with TC-36 (95.35; 302.72; 217.74 g) followed by Salem, TC-19, TC-21 (87.46, 86.42, 84.94 g); TC-19, Salem, TC-21 (267.84, 241.93, 233.31 g); TC-21, TC-19, Salem (151.77, 145.26, 133.56 g), respectively. Similarly lowest was found with genotype TC-57 (39.00 g), TC-56 (49.26 and 29.96 g) in mother rhizome, primary and secondary fingers,

respectively (Table 3).

Genotype TC-36 registered maximum girth of mother rhizomes (14.19 cm), which was *on par* with TC-15, TC-21 (13.63, 13.44 cm, respectively). Similarly same genotype registered with maximum girth for primary fingers (8.49 cm), which was *on par* with TC-33 and TC-37 (7.91, 7.64 cm, respectively) and in secondary finger also highest girth of was found in TC-36 (6.18 cm) while, minimum was found with TC-56 (7.27 cm), TC-56 (4.70 cm) and TC-43 (2.07 cm), respectively (Table 4).

The highest length of mother rhizomes, primary and secondary fingers were recorded with TC-36 (9.99, 9.23, 7.56 cm), which was accompanied by TC-37, TC-27 and TC-60-1 (7.85, 8.69 and 7.39 cm, respectively). Similarly minimum was found with TC-8 (3.23 cm), TC-59 (5.00 cm) and TC-37 (2.45 cm) respectively in mother rhizomes, primary and secondary fingers (Table 5).

Data pertaining to fresh rhizome yield was presented in Table 6, the genotype TC-36 was found maximum (49.27 t ha⁻¹) rhizome yield which was followed by TC-19, TC-21, Salem, TC-51, (38.64, 35.1, 35.01 and 32.42 t ha⁻¹, respectively). While, least fresh rhizome yield was recorded with TC-56 (8.78 t ha⁻¹), which was *on par* with TC-47, TC-59 and TC-3 (9.39, 9.55 and 10.66 t ha⁻¹), respectively. The highest curing percentage found with TC-36 (25.77%), which was *on par* with TC-61, TC-60-2, TC-26 and TC-16 (25.55, 25.04, 24.92 and 24.73%, respectively) while, minimum was found with TC-31 (14.25%) and TC-41 (16.13%). With regard to cured yield TC-36 (12.70 t ha⁻¹) recorded maximum which

Table 2 : Number of mother rhizomes, primary and secondary fingers in turmeric genotypes.

Genotypes	Mother rhizomes			Primary fingers			Secondary fingers		
	2018-19	2019-20	Mean	2018-19	2019-20	Mean	2018-19	2019-20	Mean
TC-1	2.54	3.51	3.03	11.00	10.34	10.67	16.25	17.36	16.81
TC-2	2.60	2.52	2.56	10.35	11.58	10.97	15.36	16.38	15.87
TC-3	2.16	3.21	2.69	7.45	7.86	7.66	12.23	13.36	12.80
TC-4	3.21	3.14	3.18	8.63	10.23	9.43	13.25	16.35	14.80
TC-5	1.42	3.45	2.44	7.65	8.35	8.00	14.66	15.32	14.99
TC-6	2.33	3.35	2.84	9.56	10.27	9.92	10.34	12.78	11.56
TC-7	3.33	2.32	2.83	11.12	11.32	11.22	12.36	13.54	12.95
TC-8	2.36	3.47	2.92	8.63	9.63	9.13	11.87	13.95	12.91
TC-9	1.02	3.45	2.24	6.23	7.45	6.84	10.35	11.95	11.15
TC-10	1.16	2.01	1.59	8.33	9.71	9.02	14.23	15.67	14.95
TC-11	2.34	3.65	3.00	10.21	10.23	10.22	14.32	15.42	14.87
TC-12	3.25	2.27	2.76	7.89	9.05	8.47	11.32	13.85	12.59
TC-13	1.36	3.27	2.32	8.21	12.35	10.28	14.23	16.34	15.29
TC-14	2.51	3.01	2.76	7.01	10.11	8.56	10.32	12.36	11.34
TC-15	2.37	3.89	3.13	10.33	12.32	11.33	12.38	14.52	13.45
TC-16	2.36	3.25	2.81	10.31	10.54	10.43	13.04	13.25	13.15
TC-17	2.74	3.24	2.99	9.00	10.12	9.56	14.26	16.35	15.31
TC-18	3.25	3.01	3.13	10.23	11.25	10.74	13.95	14.32	14.14
TC-19	3.75	2.24	3.00	12.45	13.65	13.05	17.23	18.78	18.01
TC-20	2.23	3.31	2.77	6.52	9.36	7.94	13.95	18.96	16.46
TC-21	2.04	3.25	2.65	13.02	13.32	13.17	16.89	17.35	17.12
TC-22	3.56	4.01	3.79	11.92	13.65	12.79	14.23	17.98	16.11
TC-23	2.65	3.12	2.89	8.33	11.52	9.93	10.52	16.36	13.44
TC-24	1.34	3.65	2.50	7.56	8.69	8.13	12.36	13.34	12.85
TC-25	3.78	3.56	3.67	11.62	12.98	12.30	15.35	17.00	16.18
TC-26	3.54	3.14	3.34	11.00	12.54	11.77	15.89	15.31	15.60
TC-27	3.45	3.54	3.50	12.65	14.00	13.33	18.20	17.21	17.58
TC-28	1.54	3.25	2.40	8.90	9.45	9.18	11.23	14.36	12.80
TC-29	3.33	3.67	3.50	6.37	12.34	9.36	10.74	16.23	13.49
TC-30	2.78	3.15	2.97	7.32	10.5	8.91	13.64	15.50	14.57
TC-31	1.75	2.44	2.10	5.69	6.98	6.34	11.35	12.64	12.00
TC-32	2.64	3.12	2.88	6.78	7.32	7.05	13.01	14.26	13.64
TC-33	1.65	2.65	2.15	9.23	10.23	9.73	17.46	18.32	17.89
TC-34	2.45	3.23	2.84	7.63	12.35	9.99	17.35	17.24	17.30
TC-35	3.54	3.47	3.51	6.85	10.85	8.85	15.35	16.38	15.87
TC-36	3.64	4.68	4.16	13.24	14.07	13.65	18.27	19.65	18.96
TC-37	2.75	3.89	3.32	6.60	10.66	8.63	12.23	16.35	14.29
TC-38	2.16	2.54	2.35	9.33	11.50	10.42	17.66	16.23	16.95
TC-39	2.33	3.63	2.98	10.45	10.64	10.55	17.82	17.04	17.43
TC-40	1.24	3.54	2.39	7.56	8.64	8.10	11.65	13.26	12.46
TC-41	2.33	2.89	2.61	8.96	12.45	10.71	15.32	18.62	16.97
TC-42	1.66	3.87	2.77	8.00	10.50	9.25	14.32	16.23	15.28
TC-43	2.31	3.54	2.93	7.58	9.23	8.41	13.23	17.45	15.34
TC-44	1.23	2.68	2.96	7.05	6.28	6.67	14.05	12.31	13.18

Table 2 continued...

Table 2 continued...

Genotypes	Mother rhizomes			Primary fingers			Secondary fingers		
	2018-19	2019-20	Mean	2018-19	2019-20	Mean	2018-19	2019-20	Mean
TC-45	1.64	3.24	2.44	9.28	9.86	9.57	16.45	17.25	16.85
TC-46	2.56	3.56	3.06	5.23	10.23	7.73	10.23	12.35	11.29
TC-47	1.45	3.67	2.56	6.25	7.14	6.70	9.89	12.23	11.06
TC-48	1.65	3.54	2.60	6.06	8.24	7.15	11.21	15.54	13.38
TC-49	2.78	3.67	3.23	4.33	11.23	7.78	7.56	17.24	12.40
TC-50	3.45	3.98	3.72	10.00	11.54	10.77	12.34	14.23	13.29
TC-51	1.75	2.44	2.10	12.23	13.64	12.94	17.01	17.69	17.35
TC-52	3.14	3.46	3.30	9.00	12.65	10.83	17.15	16.23	16.69
TC-53	3.26	3.87	3.57	10.12	10.01	10.07	18.24	18.36	18.30
TC-54	1.66	3.69	2.68	9.24	10.35	9.80	12.34	14.76	13.01
TC-55	2.36	3.66	3.01	11.23	12.37	11.80	14.56	15.36	17.46
TC-56	2.65	3.31	2.98	4.56	5.36	4.96	9.84	10.35	10.10
TC-57	1.64	2.21	1.93	8.36	10.36	9.36	16.14	15.64	15.89
TC-58	2.54	3.56	3.05	8.75	9.68	9.22	16.34	18.95	17.65
TC-59	1.67	3.78	2.73	6.43	7.45	6.94	10.21	11.26	10.74
TC-60	2.33	4.11	3.22	10.23	12.36	11.30	17.52	18.36	18.10
TC-60-1	2.53	3.89	3.21	9.67	10.65	10.16	15.54	19.45	17.50
TC-60-2	1.67	2.01	1.84	6.91	11.54	9.23	13.46	16.50	14.98
TC-61	2.36	3.67	3.02	6.43	7.36	6.90	12.45	11.35	11.90
Prahba	1.84	2.70	2.27	7.84	8.81	8.33	12.62	14.49	13.56
Salem	2.57	4.29	3.43	10.48	11.02	10.75	14.16	16.38	15.27
Prathibha	2.15	3.11	2.63	8.31	9.58	8.95	13.36	15.58	14.47
S. Em±	0.13	0.43	0.23	0.23	0.20	0.19	0.72	0.37	0.53
CD @ 5%	0.30	0.93	0.51	0.50	0.44	0.43	1.55	0.81	1.15
CV (%)	22.39	16.89	16.77	15.35	11.91	10.60	20.11	18.00	17.25

Table 3 : Fresh weight of mother rhizomes, primary and secondary fingers in turmeric genotypes.

Genotypes	Mother rhizomes (g)			Primary fingers (g)			Secondary fingers (g)		
	2018-19	2019-20	Mean	2018-19	2019-20	Mean	2018-19	2019-20	Mean
TC-1	60.63	60.56	60.60	178.65	184.52	181.59	48.64	60.34	54.49
TC-2	62.25	62.45	62.35	185.56	200.45	193.01	86.52	96.60	91.56
TC-3	40.15	41.25	40.70	75.34	75.64	75.49	50.12	49.24	49.68
TC-4	56.32	56.95	56.64	132.48	136.57	134.53	50.42	56.60	53.51
TC-5	57.23	57.56	57.40	78.32	77.32	77.82	39.23	40.25	39.74
TC-6	55.14	56.12	55.63	110.25	115.24	112.75	85.26	90.36	87.81
TC-7	66.54	64.35	65.45	157.68	169.95	163.82	70.25	76.60	73.43
TC-8	60.13	65.23	62.68	102.32	106.25	104.29	70.35	75.25	72.80
TC-9	52.32	53.45	52.89	75.23	76.62	75.93	33.25	34.15	33.70
TC-10	39.33	41.32	40.33	96.35	115.24	105.80	35.36	70.23	52.80
TC-11	52.33	55.04	53.69	138.65	134.25	136.45	50.48	52.34	60.15
TC-12	48.33	51.90	50.12	85.67	80.45	83.06	75.67	70.15	72.91
TC-13	77.74	75.26	76.50	174.00	182.30	178.15	86.39	90.15	88.27
TC-14	50.24	47.68	48.96	145.26	158.54	151.90	60.24	66.60	63.42

Table 3 continued...

Table 3 continued...

Genotypes	Mother rhizomes (g)			Primary fingers (g)			Secondary fingers (g)		
	2018-19	2019-20	Mean	2018-19	2019-20	Mean	2018-19	2019-20	Mean
TC-15	79.56	78.35	78.96	178.25	180.21	179.23	100.51	115.40	107.96
TC-16	65.33	67.58	66.46	165.32	170.26	167.79	105.24	110.10	107.67
TC-17	80.47	78.58	79.53	178.33	180.25	179.29	112.34	116.58	114.46
TC-18	81.49	82.35	81.92	185.36	190.25	187.81	130.25	132.57	131.41
TC-19	88.59	84.25	86.42	265.32	270.35	267.84	140.23	150.29	145.26
TC-20	72.35	73.25	72.80	187.36	185.34	186.35	100.23	103.62	101.93
TC-21	85.23	84.65	84.94	230.41	236.21	233.31	150.32	153.21	151.77
TC-22	65.23	64.34	64.79	168.32	170.23	169.28	78.35	80.32	79.34
TC-23	60.35	62.28	61.32	170.25	175.68	172.97	105.32	110.25	107.79
TC-24	52.33	51.05	51.69	172.24	186.33	179.29	58.64	76.60	67.62
TC-25	72.32	75.46	73.89	196.60	205.36	200.98	123.54	132.50	128.02
TC-26	62.35	66.25	64.30	182.35	184.29	183.32	102.36	98.42	102.36
TC-27	64.56	68.35	66.46	195.23	206.58	200.91	96.35	92.48	96.35
TC-28	60.37	60.25	60.31	104.65	110.24	107.45	78.23	83.30	80.77
TC-29	68.25	66.32	67.29	168.35	166.54	167.45	92.35	100.00	96.18
TC-30	61.66	58.36	60.01	155.63	167.85	161.74	54.26	58.32	56.29
TC-31	45.68	47.65	46.67	100.35	98.26	99.31	44.25	40.53	44.25
TC-32	50.14	48.65	49.40	143.37	150.23	146.80	70.45	65.23	67.84
TC-33	55.23	70.23	62.73	178.66	182.37	180.52	75.36	82.35	78.86
TC-34	79.56	78.35	78.96	178.25	180.21	170.25	100.51	115.40	106.35
TC-35	76.32	78.24	77.28	175.32	181.37	178.35	110.25	105.32	110.25
TC-36	92.36	98.35	95.35	305.28	300.15	302.72	225.18	210.23	217.74
TC-37	73.25	74.25	73.75	176.25	178.36	177.31	100.51	110.25	105.38
TC-38	60.28	61.27	60.78	160.34	167.45	163.90	100.25	120.35	93.25
TC-39	51.66	53.35	52.51	156.60	165.34	160.97	80.12	84.65	82.39
TC-40	45.66	50.26	47.96	100.23	105.62	102.93	40.24	44.63	42.44
TC-41	48.62	49.35	48.99	115.26	125.34	120.30	53.25	60.27	56.76
TC-42	50.13	58.65	54.39	153.47	156.08	154.78	58.95	68.01	63.48
TC-43	43.16	51.24	47.20	150.24	162.31	156.28	60.34	69.34	64.84
TC-44	53.19	55.23	54.21	80.58	91.25	85.92	55.23	75.34	65.29
TC-45	60.37	65.42	62.90	208.56	211.38	209.97	88.62	93.30	90.96
TC-46	55.12	61.50	58.31	116.38	122.39	119.39	48.96	53.27	51.12
TC-47	40.12	42.35	41.24	50.12	53.12	51.62	30.12	31.25	30.69
TC-48	64.25	65.48	64.87	110.25	127.83	119.04	37.28	40.25	38.77
TC-49	53.07	55.23	54.15	73.85	76.28	75.07	43.24	48.26	45.75
TC-50	50.23	63.56	56.90	153.68	163.41	158.55	85.36	96.58	90.97
TC-51	70.29	73.25	71.77	200.15	220.45	210.30	126.45	135.43	130.94
TC-52	60.15	66.75	63.45	175.28	182.36	178.82	75.28	83.24	79.26
TC-53	80.47	82.58	81.53	180.25	183.26	181.76	118.45	120.37	119.41
TC-54	62.56	67.85	65.21	170.25	181.23	175.74	65.38	72.10	68.74
TC-55	62.31	65.25	63.78	167.29	176.34	171.82	80.25	90.77	85.51
TC-56	39.24	41.25	40.25	48.25	50.14	49.26	29.34	30.58	29.96
TC-57	37.50	40.50	39.00	92.31	95.26	93.79	43.26	45.18	44.22
TC-58	42.96	45.63	44.30	70.28	82.36	76.32	40.28	48.39	44.34

Table 3 continued...

Table 3 continued...

Genotypes	Mother rhizomes (g)			Primary fingers (g)			Secondary fingers (g)		
	2018-19	2019-20	Mean	2018-19	2019-20	Mean	2018-19	2019-20	Mean
TC-59	48.36	42.35	45.36	53.21	50.27	51.68	38.24	35.34	36.79
TC-60	82.31	80.74	81.53	200.13	219.25	209.69	105.39	110.27	107.83
TC-60-1	81.25	77.36	79.31	180.33	177.45	178.89	118.43	110.61	114.52
TC-60-2	54.32	52.17	53.25	90.24	78.62	84.43	56.32	52.14	54.23
TC-61	66.54	64.35	65.45	157.68	169.95	163.82	70.25	76.60	73.43
Prahba	75.68	80.74	78.21	190.25	215.42	202.84	93.45	105.42	99.44
Salem	88.56	86.35	87.46	245.68	238.18	241.93	136.85	130.27	133.56
Prathibha	83.12	80.15	81.64	197.15	186.24	140.78	120.48	117.45	118.97
S. Em±	0.64	0.81	0.68	1.88	2.23	1.90	0.88	3.19	1.62
CD @ 5%	1.39	1.76	1.47	3.99	4.80	4.10	1.90	6.86	3.49
CV (%)	15.98	14.49	12.92	24.00	21.66	22.14	15.68	12.81	12.42

Table 4 : Girth of mother rhizomes, primary and secondary fingers in turmeric genotypes

Genotypes	Mother rhizomes (cm)			Primary fingers (cm)			Secondary fingers (cm)		
	2018-19	2019-20	Mean	2018-19	2019-20	Mean	2018-19	2019-20	Mean
TC-1	12.70	10.26	11.48	6.68	5.30	5.99	3.50	3.65	3.58
TC-2	11.50	10.15	10.83	7.66	5.38	6.52	4.83	3.00	3.92
TC-3	7.66	9.80	8.73	4.86	5.01	4.94	2.25	3.18	2.72
TC-4	11.16	11.25	11.21	6.15	6.38	6.27	2.16	2.85	2.51
TC-5	11.50	9.38	10.44	7.16	5.24	6.20	2.25	3.03	2.64
TC-6	10.66	10.50	10.58	6.16	5.90	6.03	3.66	2.80	3.23
TC-7	9.50	8.69	9.10	6.66	6.25	6.46	3.83	3.50	3.67
TC-8	7.66	9.55	8.61	5.52	7.08	6.30	2.66	3.10	2.88
TC-9	10.67	9.88	10.28	7.35	6.05	6.70	3.54	3.63	3.59
TC-10	8.35	8.14	8.25	6.78	5.38	6.08	2.54	3.13	2.84
TC-11	11.23	12.58	11.91	7.14	7.13	7.14	4.23	4.55	4.39
TC-12	11.07	12.38	11.73	6.51	7.40	6.96	4.36	4.10	4.23
TC-13	11.30	10.98	11.14	7.68	6.70	7.19	4.16	4.78	4.47
TC-14	9.68	8.15	8.92	4.66	6.18	5.42	3.68	3.15	3.42
TC-15	14.66	12.60	13.63	6.66	6.29	6.48	4.56	4.61	4.59
TC-16	11.25	9.91	10.58	7.01	5.05	6.03	4.35	4.51	4.43
TC-17	12.68	13.24	12.96	5.66	6.36	6.01	4.16	4.48	4.32
TC-18	11.42	12.01	11.72	5.75	7.90	6.83	5.63	4.40	5.02
TC-19	13.07	13.21	13.14	6.35	7.75	7.05	6.54	5.38	5.96
TC-20	11.39	11.35	11.37	6.23	6.75	6.49	5.48	4.50	4.99
TC-21	13.62	13.25	13.44	7.16	7.57	7.37	4.76	4.21	4.49
TC-22	12.68	9.33	11.01	5.66	6.11	5.89	3.95	3.08	3.52
TC-23	8.36	9.65	9.01	7.15	6.25	6.70	4.15	4.35	4.25
TC-24	8.75	9.12	8.94	6.68	6.80	6.74	4.82	3.43	4.13
TC-25	12.66	10.50	11.58	6.66	5.50	6.08	4.53	4.31	4.42
TC-26	9.66	9.93	9.80	5.71	6.31	6.01	3.54	4.38	3.96
TC-27	12.66	12.52	12.59	7.23	6.50	6.87	4.71	4.69	4.70
TC-28	10.83	11.21	11.02	7.28	7.00	7.14	4.52	3.30	3.91
TC-29	11.50	11.88	11.69	7.71	5.88	6.80	3.65	4.38	4.02

Table 4 continued...

Table 4 continued...

Genotypes	Mother rhizomes (cm)			Primary fingers (cm)			Secondary fingers (cm)		
	2018-19	2019-20	Mean	2018-19	2019-20	Mean	2018-19	2019-20	Mean
TC-30	9.50	11.38	10.44	6.83	6.20	6.52	3.71	3.70	3.71
TC-31	8.89	8.58	8.74	5.31	5.26	5.29	3.83	3.63	3.73
TC-32	8.16	9.43	8.80	5.01	6.55	5.78	3.64	4.03	3.84
TC-33	12.00	12.38	12.19	8.52	7.30	7.91	4.52	4.08	4.30
TC-34	10.83	12.08	11.46	7.56	7.13	7.35	5.04	5.83	5.44
TC-35	11.56	12.01	11.79	5.16	8.05	6.61	5.21	5.35	5.28
TC-36	13.73	14.65	14.19	8.68	8.30	8.49	6.01	6.35	6.18
TC-37	11.00	10.55	10.78	8.34	6.93	7.64	5.01	4.70	4.86
TC-38	10.50	9.88	10.19	4.16	6.15	5.16	3.65	4.20	3.93
TC-39	10.83	10.80	10.82	6.32	6.13	6.23	3.43	4.10	3.77
TC-40	9.48	8.12	8.80	5.44	8.50	6.97	2.44	3.50	2.97
TC-41	9.45	10.32	9.89	6.12	6.88	6.50	2.83	3.36	3.10
TC-42	9.50	11.25	10.38	4.83	6.23	5.53	2.68	3.95	3.32
TC-43	8.32	10.24	9.28	4.01	5.63	4.82	2.01	2.13	2.07
TC-44	8.66	9.25	8.96	5.66	6.13	5.90	3.24	2.25	2.75
TC-45	10.83	13.25	12.04	5.21	7.38	6.30	2.75	3.38	3.07
TC-46	10.83	12.25	11.54	6.31	7.18	6.75	4.13	3.00	3.57
TC-47	8.31	7.85	8.08	5.25	6.80	6.03	2.92	2.60	2.76
TC-48	10.56	12.25	11.41	7.07	6.58	6.83	2.16	2.48	2.32
TC-49	8.16	13.50	10.83	3.89	6.88	5.39	2.07	2.10	2.09
TC-50	12.50	11.38	11.94	7.15	6.75	6.95	3.20	3.63	3.42
TC-51	11.00	9.35	10.18	7.45	6.78	7.12	4.66	4.89	4.78
TC-52	12.00	11.88	11.94	5.16	6.95	6.06	2.35	3.10	2.73
TC-53	12.23	12.25	12.24	6.54	5.75	6.15	3.56	2.63	3.10
TC-54	12.50	11.75	12.13	7.45	7.56	7.51	2.28	3.93	3.11
TC-55	12.33	13.20	12.77	6.16	8.25	7.21	3.16	2.75	2.96
TC-56	7.21	7.32	7.27	4.28	4.68	4.70	2.68	2.84	2.76
TC-57	10.66	11.75	11.21	5.87	6.21	6.04	1.57	2.83	2.20
TC-58	8.54	9.25	8.90	5.66	7.50	6.58	1.85	3.78	2.82
TC-59	8.26	8.31	8.29	5.73	5.38	5.56	2.76	3.08	2.92
TC-60	13.73	12.54	13.14	6.83	7.83	7.33	4.01	4.25	4.13
TC-60-1	11.32	12.75	12.04	6.66	7.75	7.21	4.35	4.31	4.33
TC-60-2	10.01	10.25	10.13	5.83	7.13	6.48	3.66	3.15	3.41
TC-61	10.21	10.32	10.27	6.66	7.75	7.21	3.65	4.81	4.23
Prahba	9.63	10.26	9.95	5.48	6.00	5.74	3.24	3.95	3.60
Salem	11.08	12.25	11.67	6.30	7.22	6.76	4.29	4.97	4.63
Prathibha	10.46	11.39	10.93	5.89	6.43	6.16	3.91	4.59	4.25
S. Em ±	0.42	0.36	0.35	0.20	0.64	0.38	0.25	0.21	0.20
CD @ 5%	0.91	0.78	0.76	0.44	1.38	0.82	0.55	0.46	0.44
CV (%)	19.06	19.15	14.99	19.99	19.00	14.02	17.81	18.84	15.11



Plate 1 : Promising genotypes of turmeric.

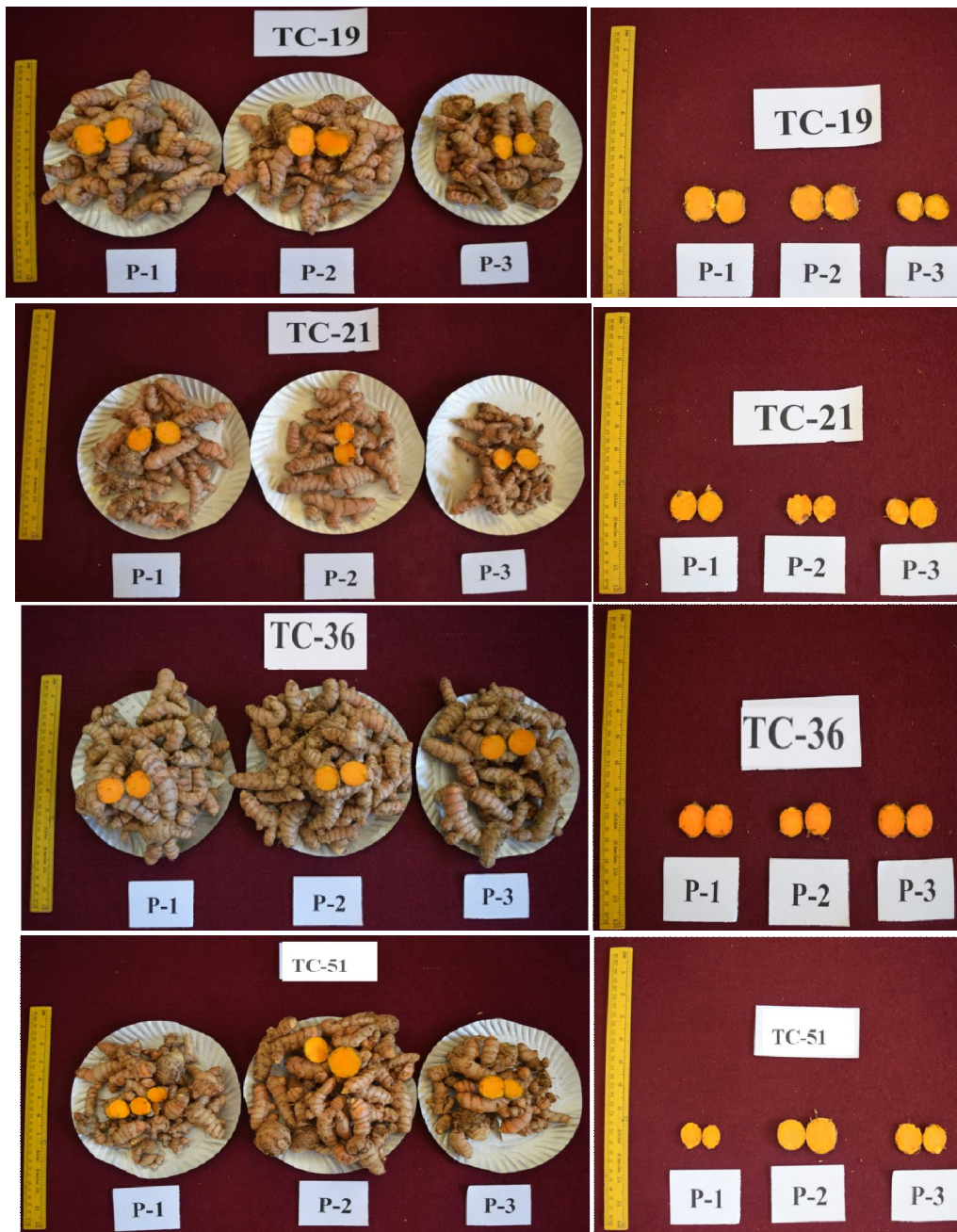


Plate 2 : Yield components of long duration turmeric genotypes TC-19, TC-21, TC-36 and TC-51.

Table 5 : Length of mother rhizomes, primary and secondary fingers in turmeric genotypes.

Genotypes	Mother rhizomes (cm)			Primary fingers (cm)			Secondary fingers (cm)		
	2018-19	2019-20	Mean	2018-19	2019-20	Mean	2018-19	2019-20	Mean
TC-1	5.66	7.34	6.50	7.01	7.53	7.27	5.31	6.12	5.72
TC-2	6.58	7.67	7.13	8.12	8.02	8.07	6.83	7.45	7.14
TC-3	5.32	5.01	5.17	5.23	5.75	5.49	4.96	5.01	4.99
TC-4	3.45	5.71	4.58	6.15	7.25	6.70	4.16	3.96	4.06
TC-5	4.67	5.25	4.96	6.83	6.92	6.88	5.12	5.17	5.15
TC-6	6.16	4.26	5.21	7.66	7.26	7.46	3.54	3.84	3.69
TC-7	4.01	5.73	4.87	6.52	7.01	6.77	6.52	7.12	6.82
TC-8	2.66	3.79	3.23	7.03	7.18	7.11	4.53	4.45	4.49
TC-9	5.56	6.35	5.96	6.45	6.34	6.40	5.64	5.85	5.75
TC-10	5.86	5.87	5.87	6.01	6.75	6.38	4.75	5.67	5.21
TC-11	5.66	6.13	5.90	7.14	7.25	7.20	3.56	6.57	5.07
TC-12	5.41	4.24	4.83	5.01	5.12	5.07	2.87	3.14	3.01
TC-13	6.35	5.75	6.05	7.16	7.37	7.27	3.45	3.78	3.62
TC-14	5.24	4.15	4.70	6.23	6.02	6.13	2.98	4.56	3.77
TC-15	6.68	6.21	6.45	7.68	7.15	7.42	3.01	4.89	3.95
TC-16	5.12	5.45	5.29	6.24	6.02	6.13	5.27	5.01	5.14
TC-17	6.02	5.78	5.90	6.42	6.67	6.55	5.01	5.46	5.24
TC-18	7.01	6.95	6.98	7.45	7.30	7.38	6.35	6.83	6.59
TC-19	6.39	6.85	6.62	7.53	7.03	7.28	6.74	6.01	6.38
TC-20	6.57	6.95	6.76	8.23	8.35	8.29	6.53	7.15	6.84
TC-21	6.16	6.45	6.31	7.66	8.95	8.31	7.25	7.53	7.39
TC-22	7.59	8.01	7.80	8.12	8.45	8.29	7.02	7.45	7.24
TC-23	5.83	5.96	5.90	7.45	5.25	6.35	6.65	6.23	6.44
TC-24	6.35	6.72	6.54	7.71	8.36	8.04	6.53	7.01	6.77
TC-25	7.45	7.96	7.71	7.45	8.57	8.01	7.56	6.75	7.15
TC-26	5.71	5.53	5.62	7.15	6.75	6.95	5.23	5.24	5.24
TC-27	7.16	6.85	7.01	8.56	8.64	8.60	6.56	6.64	6.60
TC-28	7.63	6.23	6.93	8.66	7.64	8.15	5.83	6.94	6.39
TC-29	6.65	6.32	6.49	9.01	7.96	8.49	6.71	7.31	7.01
TC-30	6.53	6.78	6.66	8.71	7.25	7.98	4.57	5.36	4.97
TC-31	6.23	6.01	6.12	6.86	7.07	6.97	5.42	5.32	5.37
TC-32	7.15	7.65	7.40	8.01	8.14	8.08	4.01	5.67	4.84
TC-33	7.56	7.65	7.61	8.65	8.34	8.50	4.75	6.48	5.62
TC-34	7.56	7.91	7.74	8.34	8.69	8.52	3.98	5.68	4.83
TC-35	6.16	7.62	6.89	8.24	7.75	8.00	4.56	5.34	4.95
TC-36	9.86	10.12	9.99	9.34	9.12	9.23	7.86	7.26	7.56
TC-37	8.83	6.87	7.85	7.56	8.68	8.12	2.53	2.36	2.45
TC-38	6.35	6.25	6.30	8.15	7.45	7.80	2.81	3.64	3.23
TC-39	7.56	7.34	7.45	8.42	8.63	8.53	4.15	6.37	5.26
TC-40	6.98	7.02	7.00	7.51	7.95	7.73	7.42	7.21	7.32
TC-41	7.44	7.86	7.65	9.16	7.25	8.21	6.45	6.35	6.40
TC-42	6.25	7.54	6.90	6.83	7.65	7.24	6.45	6.25	6.35
TC-43	5.34	5.25	5.30	6.87	6.75	6.81	5.84	5.32	5.58
TC-44	6.16	6.67	6.42	7.15	8.37	8.25	6.48	6.73	6.61

Table 5 continued...

Table 5 continued...

Genotypes	Mother rhizomes (cm)			Primary fingers (cm)			Secondary fingers (cm)		
	2018-19	2019-20	Mean	2018-19	2019-20	Mean	2018-19	2019-20	Mean
TC-45	7.25	7.62	7.44	7.65	7.68	7.67	4.31	5.01	4.66
TC-46	6.83	6.25	6.54	7.66	7.35	7.51	6.53	6.78	6.66
TC-47	5.66	5.48	5.57	6.31	6.01	6.16	4.30	4.15	4.23
TC-48	5.67	7.59	6.63	7.15	7.25	7.20	3.16	4.25	3.71
TC-49	4.89	7.37	6.13	5.66	6.36	6.01	3.17	3.51	3.34
TC-50	7.16	6.35	6.76	8.25	7.76	8.01	3.45	4.78	4.12
TC-51	5.28	6.78	6.03	9.33	8.56	8.95	5.78	6.58	6.18
TC-52	7.16	8.25	7.71	8.73	8.64	8.69	4.83	4.15	4.49
TC-53	6.23	6.69	6.46	8.28	6.75	7.52	4.05	4.42	4.24
TC-54	7.07	5.48	6.28	7.23	6.89	7.06	4.65	6.35	5.50
TC-55	6.45	7.05	6.75	6.85	7.42	7.14	2.98	4.95	3.97
TC-56	4.66	5.65	5.16	5.83	5.34	5.59	2.13	3.02	2.58
TC-57	5.16	5.46	5.31	6.18	6.85	6.52	5.64	4.34	4.99
TC-58	5.78	7.69	6.74	7.12	7.35	7.24	5.67	6.67	6.17
TC-59	5.13	5.10	5.12	5.02	4.98	5.00	3.28	4.51	3.90
TC-60	7.66	7.95	7.81	9.02	8.56	8.79	7.20	7.36	7.28
TC-60-1	6.16	6.45	6.31	7.66	8.95	8.31	7.25	7.53	7.39
TC-60-2	6.41	6.34	6.38	7.15	7.75	7.45	4.66	5.24	4.95
TC-61	6.15	6.85	6.50	7.67	8.21	7.94	6.48	6.43	6.46
Prahba	5.17	5.65	5.41	5.82	6.74	6.28	4.26	4.84	4.55
Salem	6.53	7.30	6.92	7.20	7.98	7.59	5.63	6.11	5.87
Prathibha	5.83	6.80	6.32	6.37	7.27	6.82	4.73	5.31	5.02
S. Em±	0.22	0.40	0.22	0.34	0.32	0.31	0.15	0.20	0.13
CD @ 5%	0.49	0.87	0.49	0.74	0.69	0.67	0.34	0.43	0.28
CV (%)	23.1	22.28	21.07	20.63	18.09	18.03	16.67	14.5	14.67

Table 6 : Yield, curing percentage and cured yield in different turmeric genotypes.

Genotypes	Fresh rhizome yield (t ha ⁻¹)			Curing percentage			Cured yield (t ha ⁻¹)		
	2018-19	2019-20	Mean	2018-19	2019-20	Mean	2018-19	2019-20	Mean
TC-1	23.46	19.66	21.56	23.50	23.40	23.45	5.51	4.60	5.06
TC-2	26.40	27.78	27.09	21.50	23.58	22.54	5.68	6.55	6.11
TC-3	7.88	13.43	10.66	21.60	22.30	21.95	1.70	2.99	2.34
TC-4	15.87	20.68	18.28	20.87	21.27	21.07	3.31	4.40	3.85
TC-5	12.61	13.07	12.84	22.00	22.80	23.13	2.77	2.98	2.97
TC-6	16.53	23.22	19.88	23.60	22.97	23.29	3.90	5.33	4.63
TC-7	18.63	24.66	21.65	23.01	22.14	22.58	4.29	5.46	4.89
TC-8	10.95	25.30	18.13	23.00	23.23	23.12	2.52	5.88	4.19
TC-9	10.40	13.38	11.89	23.60	23.90	23.75	2.45	3.20	2.82
TC-10	14.31	14.12	14.22	19.00	18.75	18.88	2.72	2.65	2.68
TC-11	17.25	19.88	18.57	24.00	23.00	23.50	4.14	4.57	4.36
TC-12	11.51	19.90	15.71	20.60	20.80	20.70	2.37	4.14	3.25
TC-13	24.69	26.89	25.79	22.60	23.67	23.14	5.58	6.36	5.97
TC-14	20.52	20.66	20.59	21.00	22.00	21.50	4.31	4.55	4.43
TC-15	21.60	34.37	27.99	23.60	24.58	24.09	5.10	8.45	6.74

Table 6 continued...

Table 6 continued...

Genotypes	Fresh rhizome yield (t ha ⁻¹)			Curing percentage			Cured yield (t ha ⁻¹)		
	2018-19	2019-20	Mean	2018-19	2019-20	Mean	2018-19	2019-20	Mean
TC-16	26.57	26.88	26.73	24.30	25.15	24.73	6.46	6.76	6.61
TC-17	24.13	32.64	28.39	21.00	22.00	21.50	5.07	7.18	6.10
TC-18	24.26	38.18	31.22	20.60	21.55	21.08	5.00	8.23	6.58
TC-19	34.95	42.33	38.64	21.60	21.41	21.51	7.55	9.06	8.31
TC-20	21.11	33.90	27.51	21.60	22.10	21.85	4.56	7.49	6.01
TC-21	36.60	33.60	35.10	23.60	23.80	23.70	8.64	8.00	8.32
TC-22	16.76	29.26	23.01	23.11	24.25	23.68	3.87	7.10	5.45
TC-23	19.57	33.26	26.42	21.60	22.42	22.01	4.23	7.46	5.82
TC-24	17.22	27.68	22.45	20.30	20.47	20.39	3.50	5.67	4.58
TC-25	28.56	35.23	31.90	22.00	21.42	21.71	6.28	7.55	6.93
TC-26	19.07	34.36	26.72	25.00	24.84	24.92	4.77	8.54	6.66
TC-27	20.04	34.09	27.07	22.00	22.50	22.25	4.41	7.67	6.02
TC-28	13.54	24.42	18.98	22.50	22.00	22.25	3.05	5.37	4.22
TC-29	26.12	23.62	24.87	22.00	21.19	21.60	5.75	5.01	5.37
TC-30	16.70	25.85	21.28	20.00	28.00	24.00	3.51	5.69	4.58
TC-31	13.60	15.68	14.64	14.00	14.50	14.25	1.90	2.27	2.09
TC-32	17.52	22.46	19.99	17.00	21.36	19.18	2.98	4.80	3.83
TC-33	27.70	22.06	24.88	20.00	19.00	19.50	5.54	4.19	4.85
TC-34	20.63	34.42	27.53	21.00	21.50	21.25	4.33	7.40	5.85
TC-35	18.76	36.27	27.52	24.20	23.45	23.83	4.54	8.51	6.56
TC-36	46.52	52.02	49.27	25.42	26.12	25.77	11.83	13.59	12.70
TC-37	26.38	28.35	27.37	20.21	20.50	20.36	5.33	5.81	5.57
TC-38	22.60	27.10	24.90	23.60	22.55	23.08	5.33	6.11	5.75
TC-39	20.52	23.48	22.00	23.11	22.50	22.81	4.74	5.28	5.02
TC-40	12.72	15.55	14.14	23.00	23.50	23.25	2.93	3.65	3.29
TC-41	16.17	19.01	17.59	16.00	16.25	16.13	2.59	3.09	2.84
TC-42	18.97	21.92	20.45	16.00	18.59	17.30	3.04	4.07	3.54
TC-43	22.12	21.12	21.62	21.60	21.80	21.70	4.78	4.60	4.69
TC-44	15.85	16.00	15.93	20.45	21.19	20.82	3.24	3.39	3.32
TC-45	26.57	28.85	27.21	23.30	22.15	22.73	6.19	6.39	6.18
TC-46	14.97	18.86	16.92	23.30	24.65	23.98	3.49	4.65	4.06
TC-47	8.12	10.65	9.39	22.45	22.86	22.66	1.82	2.43	2.13
TC-48	15.94	17.76	16.85	22.13	21.14	21.64	3.53	3.75	3.65
TC-49	12.00	13.25	12.75	22.30	22.80	22.55	2.68	3.02	2.88
TC-50	23.77	25.85	24.81	20.08	20.36	20.22	4.77	5.26	5.02
TC-51	32.92	31.92	32.42	23.00	22.91	22.96	7.57	7.31	7.44
TC-52	22.70	26.44	24.57	23.00	22.48	22.74	5.22	5.94	5.59
TC-53	30.77	27.99	29.38	22.30	20.93	21.62	6.86	5.86	6.35
TC-54	24.45	21.80	23.13	24.30	25.07	24.69	5.94	5.47	5.71
TC-55	23.90	24.90	24.40	22.50	21.58	22.04	5.38	5.37	5.38
TC-56	9.62	7.94	8.78	18.60	27.52	23.06	1.79	2.19	2.02
TC-57	12.42	13.58	13.00	22.00	23.15	22.58	2.73	3.14	2.94
TC-58	12.04	12.66	12.35	22.12	22.42	22.27	2.66	2.84	2.75
TC-59	9.90	9.20	9.55	20.50	21.23	20.87	2.03	1.95	1.99

Table 5 continued...

Table 6 continued...

Genotypes	Fresh rhizome yield (t ha ⁻¹)			Curing percentage			Cured yield (t ha ⁻¹)		
	2018-19	2019-20	Mean	2018-19	2019-20	Mean	2018-19	2019-20	Mean
TC-60	33.90	27.78	30.84	20.60	21.29	20.95	6.98	5.91	6.46
TC-60-1	26.07	31.44	28.76	24.00	25.00	24.50	6.26	7.86	7.05
TC-60-2	14.07	15.52	14.80	24.60	25.47	25.04	3.46	3.95	3.71
TC-61	20.02	25.48	22.74	25.30	25.80	25.55	5.07	6.57	5.81
Prahba	28.39	30.32	29.35	20.33	23.99	22.16	5.77	7.27	6.50
Salem	34.08	35.95	35.01	23.50	24.62	24.06	8.01	8.85	8.42
Prathibha	30.75	32.60	31.67	23.36	22.26	21.81	7.18	7.26	6.91
S. Em±	1.49	1.31	1.14	1.40	1.64	0.80	0.62	0.60	0.44
CD @ 5%	3.20	2.81	2.45	3.02	3.53	1.73	1.35	1.30	0.96
CV (%)	15.48	14.03	13.99	17.02	17.32	16.18	24.87	23.42	21.72

was followed by Salem, TC-21 and TC-19 (8.42, 8.32 and 8.31 t ha⁻¹, respectively), while minimum was found with TC-59 (1.99 t ha⁻¹), which was *on par* with TC-56, TC-31, TC-47, TC-3 and TC-10 (2.02, 2.09, 2.13, 2.34 and 2.68 t ha⁻¹, respectively).

Discussion

Yield components

The data of different yield components *viz.* number of mother rhizomes, primary and secondary fingers; weight and girth of mother rhizomes, primary and secondary fingers and length of mother rhizomes, primary and secondary fingers varied significantly among different genotypes. The variation in the yield components could attribute to better growth of aerial/ vegetative parts resulting in increased accumulation of photosynthets in rhizome parts. Similar variations in these characters for all the genotypes were reported by Cholke (1993), Jana and Bhattacharya (2001), Sinkar *et al.* (2005) and Salimath *et al.* (2014), Prasath *et al.* (2016), Mohan *et al.* (2017), Mishra and Singh (2017), Venugopal and Pariari (2017), Maurya *et al.* (2018a) and Naik and Padmasree (2018) and Anal (2019).

Among different genotypes TC-25, TC-44, TC-22, TC-36, TC-35, TC-39, TC-27, TC-19, TC-15, TC-60, TC-21, TC-50, TC-53, TC-21, TC-37, TC-45, TC-61 and TC-24 produced comparatively more number of mother rhizomes, primary and secondary fingers besides, weight and girth of mother rhizomes, primary and secondary fingers, length of mother rhizomes, primary and secondary fingers. Higher girth of mother rhizomes and fingers, length and weight of primary and secondary fingers in these genotypes would be attributed to better growth and vigour of the genotypes, which enhanced better production of rhizomes and fingers. Similar results were reported by Cholke (1993), Jana and Bhattacharya (2001) and Sinkar

et al. (2005). Consistently least value for these traits recorded with genotypes TC-8, TC-9, TC-10, TC-12, TC-56, TC-49, TC-57 and TC-58, which could be mainly attributed to poor growth performance, production of minimum fresh and dry weight of aerial parts.

Increased fresh rhizome yield of these genotypes could be attributed to the maximum plant height, number of tillers, leaves and leaf area, LAI and dry matter production and its distribution into various plant parts have an indirect effect/influence on yield. These characters are also having direct positive correlations with yield. Further, maximum rhizome yield from these genotypes may also related to weight of mother rhizome, primary and secondary fingers. Thus, it can be concluded that yield of rhizome is mainly dependent on vigor of the plant and better production of yield components. The variation of yield in different genotypes was reported by Sinkar *et al.* (2005) and Salimath *et al.* (2014). According to Laxmi *et al.* (2017), IISR Prathibha recorded higher fresh rhizome yield (40.78 t ha⁻¹); Naik and Padmasree (2018) reported, maximum fresh rhizome yield (29.90 t ha⁻¹) recorded in cultivar PTS-59. The genotype NDH-98 recorded highest yield (53.76 t ha⁻¹) followed by NDH-8 (41.36 t ha⁻¹) as reported by Kumar and Chandrashekar (2019). Krishna *et al.* (2019) recorded maximum fresh rhizome yield in CLA-3(50.35 t ha⁻¹), Three genotypes *viz.*, Prathibha (23.88 t ha⁻¹), BSR-I (21.03 t ha⁻¹) and Punjab Haldi (17.96 t ha⁻¹) excelled over the check as reported by Sadanand *et al.* (2019), the fresh rhizome yield was maximum in genotype CL-195 (798 g) followed by CL-74 (978 g) as reported by Vinodhini *et al.* (2019).

Among the different genotypes, TC-36 registered maximum curing percentage (25.77%) in mean data. In contrast, lowest curing percentage was recorded with TC-31 (14.25%). Similar findings were reported by Rao (2000), Naidu and Purushotham (2013) reported highest

curing percentage was in the genotype PTS-38 (28.5). Mohan *et al.* (2017) noticed that, curing percentage was higher with IISR Alleppey Supreme (22.3 %) and Luiram *et al.* (2018) found highest curing percentage in the genotype TPR-2 (24.50%). The variation in curing percentage was mainly depends on moisture content of rhizomes. Rao (1965) and Aiyudurai (1966) reported that, variation in curing percentage was largely related to varietal characters, genetic factors and environmental conditions under which they were grown and similar variation in curing percentage was also reported by Puajari *et al.* (1987) and Jadhav *et al.* (2009).

In the present study, significant variation was observed in the output of cured rhizome yield among different genotypes. The genotype TC-36 recorded the highest cured rhizome yield for both year of the investigation and in pooled data analysis (12.70 t ha⁻¹) which was followed by TC-21, TC-19 and Salem (8.64, 9.06 and 8.42 t ha⁻¹). The variation in cured rhizome yield largely attributed to difference in fresh rhizome yield and curing percentage. Thus, lowest cured rhizomes yield in genotypes TC-59 (1.99 t ha⁻¹) in pooled data is mainly owing to their lower fresh yield and curing percentage. Similar variations in cured yield was reported by Jagadeesha (2000) and Anusuya (2004). Findings of Salimath *et al.* (2014) in cv. Salem (8.31 t ha⁻¹) and Mohan *et al.* (2017) in cv. IISR Pratibha (7.04 t ha⁻¹), which have recorded highest cured yield support present findings.

From the present investigation concluded that the genotypes *viz.*, TC-36, TC-61, TC-60-2, TC-60, TC-51, TC-27, TC-33, TC-37, TC-19 and TC-21 were found promising genotype in regard to yield and yield attributing traits. Hence, these genotypes can be utilized for commercial cultivation after testing trail.

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