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MORPHOLOGICAL STUDIES IN TUREMIC GERMPLASM

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Turmeric is an important crop of north eastern hill region of India. Turmeric (Curcuma longa L) is a important spice crop of India producing 6.59 lakh tones from an area of 1.47 thousand hectar and export of 2.66 lakh tones during 1995-1996 (Peter, 1999). Turmeric is growing in almost all the states of North Eastern Hill Region, for its medicinal value and as a spice. A rich diversity of turmeric is available in this region (Sasikumar and Sardana, 1989).

Twenty accessions of turmeric were assessed at N.B.P.G.R., Regional station. Umiam 1000m.s.l, 26 N and 92 E during 1997-1999. The turmeric germplasm are collected through different exploration tours undertaken in N.E.H. Region. The crop was sown in three replications in randomized block design during April and harvested in December and within now 30 cm. The whizones were planted 1m apart row to row. Standard package of practices were followed.

The variability and mean performance of the occasions were given in Table 1 and 2 BDS 7491 recorded highest plant height followed by IC212577. Leaf are was also maximum in IC 212577 followed by IC 212573. Highest number of leaf/main shoot, main of tiller/camp and number of primary shizone were recorded in DK8 828, IC 212577 and IC 212577 respectively. IC 212577 recorded highest number of primary and mother shizone weight, the total field/plant was also highest in this occasion (Table 1). The variability of different characters is given in Table 2.

Table 2. Variability of turmeric germplasm in different characters

Character	Range
Plant height (cm)	47.38 - 89.76
Leaf area (cm^2)	217.24 - 501.09
Leaves / main shoot (nos.)	7.23 - 9.36
Tillers / (nos.)	1.72 - 3.48
Primary rhizome (nos.)	5.00 - 9.00
Primary rhizome wt. (gm)	129.00 - 233.20
Secondary rhizome wt. (gm)	7.06 - 56.41
Mother rhizome wt. (gm)	28.21 - 62.16
Yeild / plant (gm)	194.10 - 333.03

Table- 1. Mean performance of selected genotype of turmeric.

Genotype	Plant heigh (cm)	Leaf area (cm2)	No. of leaf/main shoot	No. of tiller/ clump	Primary primary rhizome	Secondary rhizome weight	Mother rhizome weight (gm)	Total rhizome weight (gm)	yield/ plant Gm) (gm)
IC-6171	59.51	303.89	8.00	2.33	5.60	164.20	10.66	39.12	213.98
IC-12619	53.56	248.65	8.58	1.72	5.79	148.30	13.43	32.33	194.10
IC- 211404	47.38	217.24	7.36	2.00	6.33	148.40	16.72	39.14	204.26
IC-212573	69.25	452.12	8.16	3.00	7.16	206.00	40.26	44.09	290.35
IC- 212576	59.03	270.88	8.21	2.43	7.16	163.20	31.91	28.21	220.65
IC-212577	85.69	501.09	9.00	3.48	9.00	233.20	38.00	62.16	333.03
IC-212578	58.92	322.67	7.23	2.30	7.00	176.93	20.00	40.00	239.93
IC-212589	60.94	351.09	8.17	2.44	7.52	187.40	50.00	30.55	267.95
IC 212590	66.00	447.63	8.22	2.70	6.99	204.93	47.00	42.50	294.43
IC-212594	71.21	440.98	8.11	2.50	7.33	216.66	38.00	36.71	299.44
IC-212595	56.02	261.55	8.00	1.85	5.33	171.60	7.06	33.14	209.57
IC-212598	65.83	444.94	8.16	2.27	6.96	173.86	50.82	34.29	259.24
IC-212599	65.66	370.45	8.50	2.16	5.83	200.00	20.24	38.21	258.45
NIC-22107	67.75	412.29	9.11	2.81	5.16	198.40	45.03	42.00	285.43
NIC-22117	55.57	275.18	8.04	2.63	5.71	155.00	44.73	31.11	230.48
NIC-22127	67.22	362.19	8.17	2.84	5.44	175.80	56.41	37.14	269.36
BDS-7491	89.76	218.06	8.33	1.83	5.83	154.30	10.00	35.54	199.84
H-99	54.26	283.18	8.53	2.16	7.50	129.00	41.00	30.00	200.00
DKH-828	69.23	481.79	9.36	2.83	7.33	208.40	27.62	34.35	270.37
H-894	49.74	228.44	7.66	2.23	5.00	168.20	15.41	36.42	220.03
Mean	61.43	344.71	8.24	2.24	6.50	179.19	31.21	37.35	248.06
CV 1	1.36	23.16	20.13	24.08	20.07	12.25	36.30	27.66	12.26
CD	3.16	36.14	0.75	0.27	0.59	9.94	5.13	4.67	13.77