

PRELIMINARY EVALUATION OF DAHLIA GERMPLASM

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Dahlia is one of the most popular bulbous ornamentals grown in many parts of the world for its beautiful blooms of varying shades of colour for the beautification of the gardens and as a cut flower. Modern days floriculture emphasizes move on the production of high value cut flower such as Gladiolus, Rose, Carnation and Tuberosa (Raghava and Dadlani 1977). The tubers of Dahlia have also been used for the production of laevulose. Dahlia flowers in full glory for over 4 months at a stretch in many part of vast plain and at different times in the different climates of the hills (Vinayananda,1986). The present investigation was aimed at to assess the performance of the dahlia germplasm collected from local habitat surrounding Nainital and Kumaon Region.

A preliminary evaluation was carried out at National Bureau of Plant Genetic Resources, Regional Station, Nainital, Bhowali, Nainital, Uttaranchal - 263 132 which is situated at 290 N latitude and 700 E longitude and an altitude of 1600m above sea level. The climate of this site is sub - temperate with temperature ranging between -70 C to 320 C and annual rainfall is around 1600mm. The eighteen-dahlia germplasm were planted with a spacing of 75x60 cm. Data were recorded on five plants. All the cultural practices were followed uniformly as recommended by Bose and Yadav (1989). The observation were recorded on days to bulb emerge, plant height (cm), Leaf length (cm), Leaf width(cm), number of branches per plant, days to 50% flowering, peduncle length(cm), flower diameter (cm), flower disk diameter (cm), green flower weight (g), dry flower weight (g), number of seeds per flower, number of flower per plant and number of flower per plant and number of bulb per plant.

The study indicated a wide range of variability amongst the accessions in different characters (Table 1). The mean performance for days to bulb emergence of Dahlia germplasm ranged from 74.66-100.33 days. The accession IC - 318978 showed early flowering whereas IC - 318979 late. The maximum plant height (138.50 cm) was noted in IC - 318922. The highest leaf length (19.94 cm) was recorded in IC - 318971. The maximum leaf width (6.48 cm) lies in IC - 318972. The maximum flower size (12.54 cm) was observed in IC - 318972 followed by IC - 318964, IC - 318975, IC - 318970 and IC - 318967. Heaviest flower was observed in IC - 318966 followed by IC - 318970, IC - 318971, IC - 318967. The mean performance for dry flower weight ranged from 0.166 - 0.983 g. The IC - 318964 showed maximum number of seed/ flower 24.20. The highest number of flower/ plant (27.65) was exhibited by IC - 318922 followed by IC - 318978, IC - 318976, IC - 318969 and IC - 318966 and the number of bulb per plant ranged from 3.43 - 6.38.

All accessions started flowering after 207 to 219 days of planting. The bulbs did not show much difference in flowering time. In IC - 318922, IC - 318972, IC - 318964, IC - 318966 and IC - 318979 can be used as parents in hybridization programme for dahlia improvement in view of their higher number of flower/ plant, flower size and number of bulb/ plant.

REFERENCES

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Table 1. Mean Value of Different Characters in Dahlia Germplasm

Germplasm Plant	Days of Bulb Emerge	Plant Height (cm)	Leaf Length (cm)	Leaf Width (cm)	No. of Branch Plant	Days of 50% Flowering	Peduncle length (cm)	Flower Dia(cm)	Flower Disk Diameter (cm)	Fresh Flower	Dry Flower Wt.(g)	No. of Seed/ Wt.(g)	No of Flower/ Flower	No.of Bulb/ Plant
IC-318964	88.33	126.33	12.96	3.26	4.00	207.00	14.33	12.50	2.79	15.68	0.750	24.20	6.95	6.38
IC-318965	85.33	121.95	12.81	5.08	8.66	218.00	16.45	8.56	1.55	15.80	0.650	19.03	9.61	5.33
IC-318966	84.33	109.74	17.43	5.75	5.33	215.00	16.36	11.75	1.52	20.60	0.166	12.95	12.90	3.43
IC-318967	77.33	100.86	17.94	5.14	10.38	217.33	13.80	11.80	1.77	16.86	0.320	13.76	8.13	4.44
IC-318968	81.00	86.96	11.28	5.49	5.66	214.66	22.83	8.04	2.00	6.16	0.386	13.72	8.97	4.77
IC-318969	88.33	104.40	13.80	4.78	6.66	217.00	23.80	8.48	1.55	7.63	0.340	21.64	17.51	4.61
IC-318970	91.33	92.93	19.34	4.76	5.33	214.33	18.20	11.86	1.96	19.33	0.983	13.43	11.20	4.10
IC-318971	87.33	96.86	19.94	4.53	7.66	214.66	14.37	10.86	1.74	19.32	0.546	14.89	10.04	4.34
IC-318972	85.00	85.93	18.32	6.48	6.66	216.00	11.85	12.54	1.48	15.14	0.310	10.00	9.76	4.57
IC-318973	92.00	106.46	16.81	4.60	3.00	214.66	21.86	7.73	1.40	9.50	0.950	15.10	9.46	5.60
IC-318974	92.33	102.26	11.28	3.28	7.33	215.66	13.22	8.74	1.92	7.03	0.366	18.26	11.73	5.26
IC-318975	87.66	111.80	12.99	3.87	7.33	215.66	13.65	11.90	1.82	15.36	0.466	15.93	11.83	5.80
IC-318976	86.33	119.60	12.41	3.81	6.00	217.00	17.32	7.73	1.85	10.31	0.710	18.40	19.46	5.10
IC-318977	89.33	87.66	11.75	3.25	5.00	217.00	12.93	6.83	2.07	7.16	0.563	9.76	7.96	3.46
IC-318978	74.66	130.53	9.85	3.36	10.33	216.33	12.66	6.80	2.11	12.20	0.350	15.86	20.46	6.36
IC-318979	100.33	89.69	13.56	6.02	11.00	217.66	11.69	10.57	1.90	12.99	0.433	11.12	12.67	4.86
IC-318980	82.66	111.56	11.52	3.81	10.33	219.00	23.70	8.15	1.61	16.63	0.916	11.18	8.93	4.49
IC-318922	75.66	138.56	12.77	4.43	11.08	216.00	15.80	6.94	2.26	9.65	0.803	9.02	27.65	5.40
Range	74.66-100.33	85.93-138.50	11.28-19.94	3.25-6.48	3.00-11.08	207.00-219.00	11.69-23.80	6.80-12.54	1.40-2.79	6.16-20.60	0.166-0.983	9.02-24.20	6.95-27.65	3.43-6.38
SEM	3.90	8.68	1.55	0.48	1.21	1.75	1.95	0.79	0.160	1.27	0.057	1.95	3.07	0.514
C.D. at 5%	11.19	24.69	4.47	1.37	3.49	5.05	5.60	2.27	0.464	3.64	0.165	5.60	8.83	1.47