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Performance of selected gladiolus (*Gladiolus floribundus*) varieties under Bay Island conditions*

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Gladiolus (*Gladiolus floribundus* L.) is the second most popular bulbous ornamental crop in the world trade. In India, gladiolus is grown in over 6 000 ha on a commercial scale. In Andamans, there is no report of commercial cultivation of gladiolus for cut-flowers, though it is in demand by the tourism industry and the local population for social functions. The flower stalks being airlifted from the mainland are sold at very high price in the local market. Commercial cultivation of gladiolus, which is quite feasible, holds great potential in Andamans. A few reports on the varietal evaluation of gladiolus for different regions of the country are available (Arora and Khanna 1985, Leena *et al.* 1993, Aswath and Parthasarthy 1996, Neeraj *et al.* 2000, Nagraju and Parthasarthy 2001). Hence this experiment was conducted using a few popular varieties to select the suitable ones, which are high yielders as well as produces quality spikes with good-keeping quality in Andamans.

The field trials were carried out at the Division of Horticulture and Forestry, Central Agricultural Research Institute, Port Blair, during 2000–2002. The soil was clayey loam, with *p*H 5.7. Ten selected popular varieties (Table 1) were planted in raised beds during November at a spacing of 30 cm × 30 cm. Uniform corms of diameter 4–5 cm, pretreated with Bavistin, were planted in the beds. All the recommended cultural operations were undertaken from time to time. The trial was laid out in randomized block design with 3 replications. Observations on days to sprouting of corms, final plant height, number of leaves, days to spike emergence, spikes/plant, length of spike, florets/spike, size of florets, number of florets open at a time, vase life of spike, corms/plant, diameter of corm, weight of single corm, number and weight of cormels/plant were recorded. The data were analysed statistically (Snedecor and Cochran 1976).

Varietal influence was evident in all the characters under study with significant differences being recorded among the varieties (Tables 1, 2).

'Snow Princess' recorded the earliest sprouting of corms and 'Green Willow' took the maximum time (Table 1). This is in line with the findings of Arora and Sandhu (1987). 'Dhiraj' recorded the maximum plant height and was on a par with 'Snow Princess', 82-18-16' and 'Tilak'. 'Pusa Suhagin' recorded the minimum plant height. The differences in plant height may be attributed to the genetic factors, as also reported by Lal *et al.* (1985) and Nagaraju and Parthasarthy (2001). 'Tilak' produced the maximum number of leaves/plant and it was on a par with '82-18-16' and 'Dhiraj' (Table 1). 'Green Willow' produced the minimum number of leaves. Early flowering was observed in 'Snow Princess' (Table 1) which flowered 45.64 days after planting, whereas '82-18-16' flowered late. The varieties exhibited significant differences in the number of spikes produced/plant (Table 1). 'Darshan' produced the maximum number of spikes/plant and was on a par with '82-18-16' and 'Dhiraj'. The results confirm the findings of Neeraj *et al.* (2000) under Bihar conditions. 'Australian Fair' produced significantly longer spikes, whereas 'Kum Kum' shortest spike. Maximum number of florets/spike were recorded in 'Dhiraj' (12.94) and it was on a par with 'Pusa Suhagin' (12.55). 'Snow Princess' recorded the minimum number of florets/spike (Table 1). Larger florets were produced by 'Green Willow' and was on a par with 'Snow Princess' and 'Australian Fair'. 'Dhiraj' produced the smallest sized florets. Among the varieties, maximum number of florets were open at a time in 'Dhiraj' which was significantly superior to the other varieties, whereas in 'Kum Kum', only 2.34 florets were open at a time (Table 1). A significant difference were recorded for vase life with 'Pusa Suhagin', having the longest life in distilled water and was on a par with 'Darshan', 'Dhiraj', '82-18-16' and 'Australian Fair'. 'Snow Princess' recorded the minimum vase life of 7.14 days (Table 1).

Significant difference was observed for the number of corms produced/plant (Table 2). 'Green Willow' recorded the maximum corms/plant and 'Australian Fair' the least number of corms. Larger-size corms were produced by '82-18-16' and was on a par with 'Darshan'. Smallest size of corms were produced by 'Pusa Suhagin' (Table 2). Significant differences were observed for the average weight of single corms in case of the different varieties. 'Snow Princess' produced heavier corms and was on a par with 'Green Willow'. Corm weight was minimum in 'Kum Kum' (Table 2). 'Pusa Suhagin' produced

*Short note

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Table 1 Vegetative, floral characters and vase life of gladiolus as influenced by varieties

Treatment (variety)	Days to sprouting of corms	Plant height (cm)	Number of leaves	Days to spike emergence	Spikes/ plant	Length of spike (cm)	Florets/ spike	Size of floret (cm)	Number of florets open at a time	Vase life of spike (days)
'Snow Princess'	6.36	89.98	6.91	45.64	1.32	60.74	8.00	10.62	2.73	7.14
'Pusa Suhagin'	9.22	68.59	7.00	54.88	2.16	66.04	12.55	8.47	4.54	9.20
'Australian Fair'	9.32	73.57	6.82	51.74	1.54	85.44	8.20	10.44	4.52	8.40
'Green Willow'	1.92	70.67	6.35	49.16	1.64	60.74	8.43	10.88	4.26	8.26
'Darshan'	8.35	76.48	6.90	48.32	3.00	63.14	10.89	8.73	3.13	8.97
'Dhiraj'	9.20	90.20	7.45	51.16	2.69	61.04	12.94	6.14	5.82	8.60
'82-18-16'	7.15	87.14	7.76	58.21	2.86	59.47	11.17	8.58	4.57	8.53
'Tilak'	9.91	86.42	7.83	50.02	1.42	57.56	11.50	9.14	3.79	7.93
'Kum Kum'	10.80	72.49	6.72	53.21	2.17	43.67	10.00	7.66	2.34	8.01
'Aarti'	9.39	78.92	6.86	54.44	2.31	59.35	8.25	8.20	4.10	7.56
CD ($P = 0.05$)	0.58	5.03	0.79	1.62	0.87	8.30	1.36	0.42	1.14	0.89

Table 2 Corm and cormel characters of gladiolus as influenced by varieties

Treatment (variety)	Corms/ plant	Diameter of corm (cm)	Average weight of single corm(g)	Cormels/ plant	Weight cormels/ plant (g)
'Snow Princess'	1.36	4.58	18.93	12.21	10.32
'Pusa Suhagin'	1.45	3.36	13.95	45.97	49.01
'Australian Fair'	1.24	4.24	10.60	10.76	12.31
'Green Willow'	1.60	4.66	17.58	10.45	10.05
'Darshan'	1.38	4.73	11.80	20.81	18.95
'Dhiraj'	1.42	4.69	12.15	13.97	10.80
'82-18-16'	1.25	5.01	13.23	15.21	17.31
'Tilak'	1.31	4.32	11.20	10.15	12.82
'Kum Kum'	1.23	4.39	10.15	11.28	13.91
'Aarti'	1.27	4.52	1.25	39.85	42.30
CD ($P = 0.05$)	0.14	0.31	3.82	8.93	12.81

the maximum number of cormels/plant and was on a par with 'Aarti', whereas 'Tilak' produced the minimum number of cormels/plant. The weight of cormels/plant was also the maximum in 'Pusa Suhagin' and minimum in 'Green Willow' (Table 2).

It might be concluded that 'Darshan', '82-18-16', 'Dhiraj' and 'Pusa Suhagin' were suitable for commercial cultivation in Andamans based on the number of spikes produced, florets/ spike, florets open at a time and the keeping quality of spikes, which influence the consumer preference for the flowers.

SUMMARY

A field experiment was conducted during 2000–2002 at Port Blair, to evaluate a few popular varieties of gladiolus (*Gladiolus floribundus* L.) for cut flower production in Andamans. 'Darshan' produced the maximum number of spikes/plant (3.00) and 'Dhiraj' had the maximum number of florets/spike (12.94) with 5.82 florets opening at a time. 'Pusa Suhagin' had the longest vase life (9.20 days) hence its keeping quality was the best. Maximum number of corms/ plant were produced by 'Green Willow' (1.60) and 'Pusa Suhagin' gave the maximum number of cormels/plant (45.97).

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