

## PERFORMANCE OF GLADIOLUS CULTIVARS UNDER JAMMU CONDITIONS

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### ABSTRACT

*Performance of twelve gladiolus cultivars was assessed at the experimental farm of Division of Vegetable Science and Floriculture, SKUAST-Jammu, in respect of their morphological characters. All the cultivars viz., 'Advance Red', 'Interpad', 'Sylvia', 'Spic Span', 'Rose Supreme', 'Pusa Gunjan', 'Pusa Gulal', 'Peter Pears', 'Purple Flora', 'Jester Gold', 'Chandani' and 'Superstar' were evaluated under Jammu conditions in 2006-2007. The analyzed data indicated that 'Advance Red' was superior over rest of the cultivars in plant height, days to slipping, spike length, rachis length, number of florets/spike, diameter of first floret and number of cormels per plant (21.00). However, maximum number of daughter corms (2.33) and flowering duration was recorded in cv. 'Pusa Gunjan'. Thus, it was concluded that cultivars 'Advance Red', 'Peter Pears' and, Pusa Gunjan can be recommended for cultivation in Jammu region.*

**Keywords:** Gladiolus; growth; flowering; corm/cormel production

### INTRODUCTION

Floriculture has emerged as most lucrative business due to much higher return than other crops and gladiolus occupies an important position amongst the ornamental bulbous crops due to its multi-coloured spikes, conspicuous florets and market demand. Gladiolus a "Queen of bulbous flower" is most commonly known flower of glamour for its enchanting beauty, longer keeping quality and dazzling colours without which no garden will look complete. A large number of varieties and hybrids have been developed by private and public sectors for commercial cultivation under different agro climatic conditions of the country but so far very scanty information is available on the performance of commercially important varieties of gladiolus, their performance and adaptability under Jammu conditions. It was therefore realized that under the changing scenario and advancement of floriculture sector, some important cultivars should be

evaluated for different parameters and be recommended to farmers for exploitation of their potential. Hence, present study was conducted to evaluate large stock of gladiolus cultivars.

## **MATERIALS AND METHODS**

A field trial was conducted at the Research Farm of Division of Vegetable Science & Floriculture, FOA, Main Campus, **SKUAST**, Chatha **Jammu**, during 2006-07. Healthy and uniform sized **corms** (3.5 -4.5 cm diameter) of 12 genotypes were planted during the first week of October 2006, in a randomized block design, with three replications, at 5 cm depth with spacing of 40 x 20 cm. The soil of experimental site was sandy loam in texture having pH 7.4. Uniform package of practices were followed throughout the experiment to grow a successful crop. Observations on different parameters *viz.*, vegetative growth, flowering and **corm/ cormel** production were recorded and analyzed statistically.

## **RESULTS AND DISCUSSION**

Gladiolus cultivars varied significantly for vegetative, flowering and corm production parameters. Data pertaining to these characteristics are presented in the table -1. Among the different cultivars studied, '**Advance Red**' produced tallest plants (**116.0 cm**) followed by '**Spic Span**' (110.3 cm) where as '**Sylvia**' attains minimum plant height (79.3 cm). Cultivar '**Super Star**' produced maximum number of leaves per plant (8.00) which was at par with '**Advance Red**' (7.67), '**Interpad**' (7.67), '**Rose Supreme**' (7.33) and '**Purple Flora**' (7.33) while minimum number of leaves/plant were produced by '**Sylvia**' (6.33). Similar observations were observed by **Mishra (1)**.

Data pertaining to flowering characteristics depicted that cv. '**Pusa Gunjan**' was earliest in heading (72.30 days), colour break (85.30 days) and full opening of first floret (89.00 days) where as cv. '**Advance Red**' was very late in heading (**91.70** days) and cv. '**Spic Span**' took maximum days for colour break (107.30 days) and full opening of first floret (**111.3** days). Minimum days to last floret bloom was observed in cv. '**Chandani**' (104.00 days) while maximum was obtained in cv. '**Spic Span**' (129.00 days). Early and late cultivars can be used for prolonging the blooming period. Similar

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variation in early and late cultivars of gladiolus has also been reported by Aswath and Parthasarthy (2) and Kumar and Yadav (3). Longest spike was recorded in 'Advance Red' (96.80 cm) which was at par with 'Interpad' (93.30 cm), where as 'Sylvia' exhibited shortest spike (56.70 cm). Maximum rachis length was recorded in 'Advance Red' (52.00 cm) while minimum was observed in 'Sylvia' (28.30 cm). Cultivar 'Advance Red' also found superior over other cultivars in diameter of first floret (9.67 cm) which was at par with 'Rose supreme' (9.00 cm) and in number of florets/spike (13.00) which was at par with 'Super Star' (12.67), 'Peter Pears' (12.33), Jester Gold (12.33), 'Pusa Gunjan' (12.00), 'Spic Span' (12.00), 'Rose Supreme' (11.67), 'Pusa Gulal' (11.67) and Chandani (11.33). Flower duration found maximum in cv. 'Pusa Gunjan' (19.00 days) which was at par with 'Advance Red' (16.67 days), Interpad (17.33 days), 'Spic Span' (17.67 days), 'Super Star' (17.67 days), 'Jester Gold' (17.00 days) 'Purple Flora' (17.33 days) and 'Peter Pears' (16.67 days) where as minimum flower duration was obtained in 'Sylvia' (13.33). Varietal variation on length of spike, rachis length, number of florets/spike, diameter of floret and flower duration has also been observed in gladiolus by earlier workers (3-8).

**Table 1:** Evaluation of different Gladiolus cultivars under Jammu conditions.

S. No.	Name of variety	Plant height (cm)	No. of leaves/plant	Days to slipping	Days to colour break	Days to first floret bloom	Days to last floret bloom	Spike length (cm)	Rachis length (cm)	No. of floret/spike	Diameter of first floret (cm)				
1	Advance Red	116.00	7.67	91.70	106.70	110.70	127.33	96.80	52.00	13.00	9.67	16.67	2.00	21.00	50.00
2	Interpad	108.00	7.67	87.70	100.30	105.70	123.00	93.30	44.50	9.33	7.33	17.33	1.33	7.30	29.00
3	Sylvia	79.30	6.33	80.30	95.00	98.70	112.00	56.70	28.30	9.33	6.67	13.33	1.33	9.70	42.00
4	Spic Span	110.3	7.00	89.70	107.30	111.3	129.00	92.00	45.30	12.00	8.33	17.67	1.33	12.30	49.00
5	Rose Supreme	82.30	7.33	80.30	98.70	107.00	124.33	59.80	39.10	11.67	9.00	17.33	1.67	15.30	42.70
6	Pusa Gunjan	107.7	7.00	72.30	85.30	89.00	108.00	71.00	41.00	12.00	8.57	19.00	2.33	20.30	48.00
7	Pusa Gulal	96.30	6.67	77.70	99.30	103.3	121.00	63.70	40.70	11.67	8.17	17.67	1.33	13.30	46.70
8	Peter Pears	99.00	6.67	85.00	101.30	105.00	121.67	73.00	39.80	12.33	8.17	16.67	1.33	12.70	51.70
9	Purple Flora	95.30	7.33	75.00	92.30	96.00	113.33	73.30	40.20	10.67	8.17	17.33	1.33	10.00	31.30
10	Jester Gold	103.3	7.00	82.00	95.30	99.00	116.00	86.00	50.80	12.33	9.17	17.00	1.33	16.00	48.30
11	Chandani	92.00	6.67	76.00	85.70	89.30	104.00	71.70	38.00	11.33	6.83	14.67	1.33	6.30	48.00
12	Super Star	99.70	8.00	82.30	96.00	99.70	117.33	80.00	35.00	12.67	7.17	17.67	1.00	9.70	39.70
	CD at 5 %	6.00	1.01	3.44	3.41	3.37	2.60	3.88	3.10	1.98	0.76	2.78	0.77	4.45	4.68

Perusal of data regarding **corm/cornel** production presented in the Table -1 indicated that production parameters were significantly influenced by **cultivars**. '**Pusa Gunjan**' produced highest number of daughter **corms/plant** (2.33) and was at par with '**Advance Red**' (2.00) where as '**Super Star**' exhibited minimum number of corms/plant (1.00). Similar findings were given by Kem *et al.* (9) and Kumar and Yadav (3). Maximum number of **cornels/plant** was recorded in '**Advance Red**' (21.00) which was at par with '**Pusa Gunjan**' (20.30) while minimum numbers of **corms** were obtained in 'Chandani' (6.30). Aswath and **Parthasarathy** (2), Kamble *et al.*, (10) and Kumar and Yadav (3) also reported variation in **corm/cornel** production in gladiolus. Heaviest corms were produced by '**Peter Pears**' (51.70 gms) which was at par with '**Advance Red**' (50.00 gm), '**Spic Span**' (49.00 gms), '**Jester Gold**' (48.30 gms), Chandani (48.00 gms) and '**Pusa Gunjan**' (48.00 gms). Similar findings were reported by Kumar and Yadav (3).

Flower colour and florets arrangement of peter pear is excellent over the other cultivars. It is therefore evident from the results that '**Advance Red**', Peter Pears and '**Pusa Gunjan**' showed better performance than other cultivars. Therefore, they are recommended for cut flower production under sub-tropical conditions of **Jammu** for better quality of flower traits.

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