

## Evaluation of Some Gladiolus Varieties on The Basis of Vegetative Growth Parameters of Gladiolus (*Gladiolus floribundus* L.)

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### ABSTRACT

Gladiolus is an important cut flower crop in both domestic and international markets for its elegant spikes with wide range of flower colour. Its cut spikes remain fresh at least for a week and are in great demand for bouquet preparation and interior decoration. The marketing potential can be exploited by introduction and evaluation of gladiolus varieties. Vegetative parameters of plants decide the yield and vase life of the spikes. The data revealed that corms of all cultivars of gladiolus sprouted between 8.00 to 16.33 days, The minimum germination was recorded in White Prosperity (66.66%). Maximum number of sprout (2.9) per corm in cultivar Aldebaran which was found significantly superior to the other cultivars, Maximum number of sprout (2.9) per corm in cultivar Aldebaran which was found significantly superior to the other cultivars. It was followed by Wine and Roses (2.24), Day Dream (2.00), Norallow bicolour (1.53) and so on. The plants of cultivar Pacific White attended maximum height (123.43cm) and the total number of leaves per plant in all cultivars varies from 5.33 to 8.93.

**Key words** *Gladiolus, evaluation, vegetative growth*

Gladiolus is known as Queen of bulbous flowers and as well as sword lily because of the shape of its leaves (Mishra, 2013). It is an important cut flower crop in both domestic and international markets for its elegant spikes with wide range of flower colour. Its cut spikes remain fresh at least for a week and are in great demand for bouquet preparation and interior decoration. The marketing potential can be exploited by introduction and evaluation of gladiolus varieties. Vegetative parameters of plants decide the yield and vase life of the spikes as vegetation of a plant serve as food source for its overall growth, production and reproduction.

### MATERIALS AND METHODS

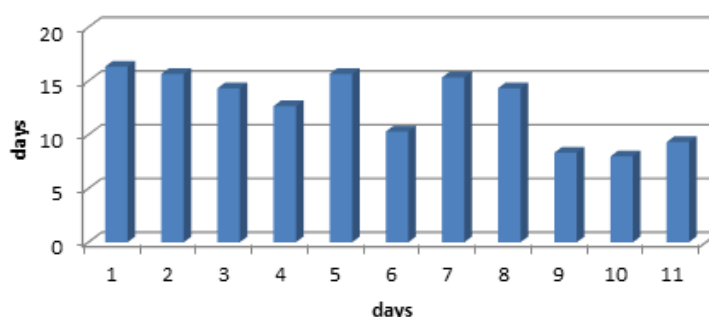
Here total eleven cultivars such as 1. wine and roses, 2. Interpit Bicolor, 3. Red Sparkle, 4. Puppy Dear, 5. White Prosperity, 6. Pacific White, 7. Seventh Wonder, 8. Norallow Bicolor, 9. Aldebaran, 10. Day Dream 11.Red Beauty were planted in Randomized Block Design . Observations taken are number of days taken for complete germination, percent of germination, number of sprouts, height of plant and total number of leaves per plant.

The data revealed that corms of all cultivars of gladiolus sprouted between 8.00 to 16.33 days. Cultivar Day Dream was found superior in comparison to other cultivars which took minimum time for sprouting (8.00days) followed by Aldebaran, Red beauty, Pacific white and Puppy Dear which took 8.33, 9.33,10.30 and 12.67 days respectively corm sprouting. Cultivar Wine and Roses took maximum days for sprouting (16.33). The data clearly indicated 100 per cent germination was found Aldebaran which is significantly superior to white prosperity and Puppy Dear while others cultivars were insignificant to each other. Variability in germination of crops among the cultivars is due to their differential response to environmental condition under sodic condition. The minimum germination was recorded in White Prosperity (66.66%).Maximum number of sprout (2.9) per corm in cultivar Aldebaran which was found significantly superior to the other cultivars. It was followed by Wine and Roses (2.24), Day Dream (2.00),Norallow bicolour (1.53) and so on. The number of sprouts per corm was minimum in cultivars Red Sparkle(1.06). The number of sprouts per corm in cultivar Wine and Roses and Day Dream, Norallow bicolour and Puppy Dear were found at par.Variation in number of sprouts per corm is due to genetic variability among the

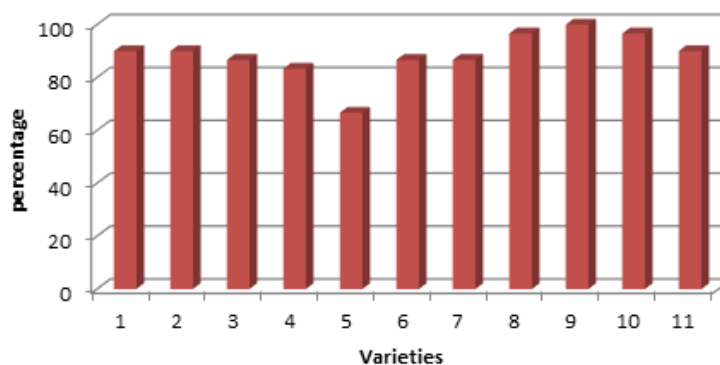
cultivars. The observation taken for plant height at the time of spike initiation of gladiolus cultivar indicates that height of that height of plant varied from cultivar to cultivar. The plants of cultivar Pacific White attended maximum height (123.43cm) which was significantly superior to other cultivars. It was followed by Day Dream, Norallow bicolour, Aldebaran (121.70, 114.98 and 107.24cm respectively). Minimum plant height (63.19cm) was recorded in cultivar Interpret bicolour. Cultivars Pacific White, Day Dream and

Norallow bicolour did not differ significantly from each other. It is clear from above data that the total number of leaves per plant in all cultivars varies from 5.33 to 8.93. The cultivar Puppy Dear and Seventh Wonder were at par and significantly superior because of maximum and same (8.93) number of leaves. It was followed by Norallow bicolour, Aldebaran, Red Beauty and so on similar results were obtained by Singhla, 1995 and Lal, *et al.*, 1985 and Mishra, 2013.

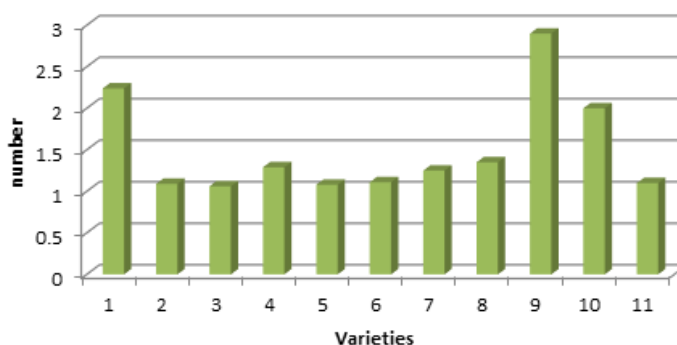
No. of days taken for complete germination

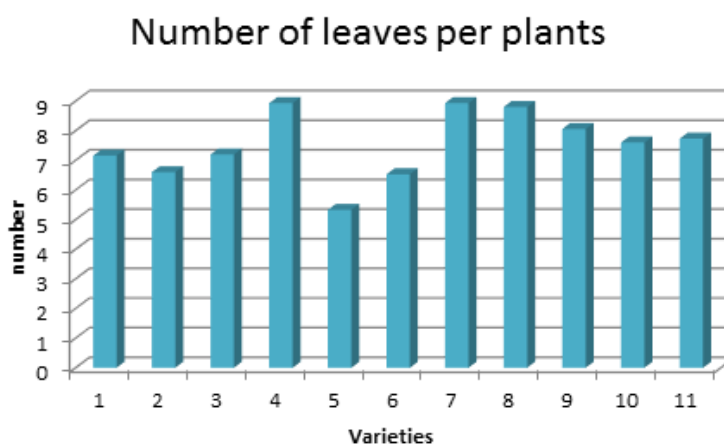
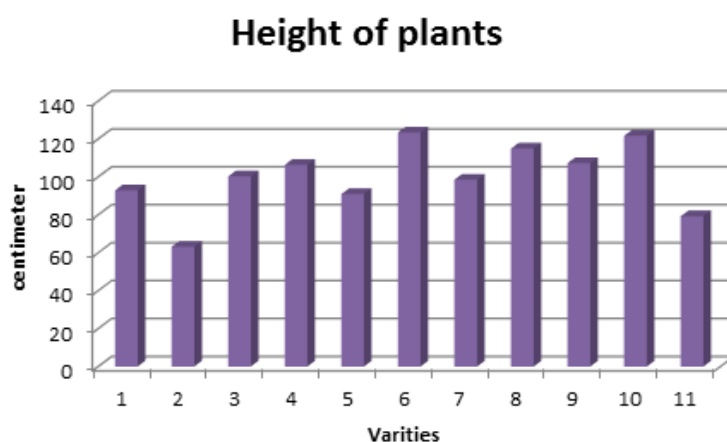


percentage of germination



No. of sprouts per corms





On the basis of vegetative parameters cultivar Aldebaran is found the best followed by cultivar Day Dreams under sodic soil and arid climatic condition of Faizabad district of Uttar Pradesh. Similar result was obtained by Mishra, *et al.*, 2013.

## LITERATURE CITED

- Lal, S.D., Seth J. N. and Danu, N.S. 1985. Genetic Variability in gladiolus. *Progressive Horticulture*, **17** (1);31-34.
- Singla, Monica 1995. Evaluation of germplasm of gladiolus under semi arid condition of Haryana. M.Sc (Ag.) Horticulture Thesis submitted to C.C.S. Haryana Agriculture University, Hisar, Haryana, India.
- Mishra, P. 2013. Genetic Variability for growth and flowering characters in gladiolus (*gladiolus floribundus* L.) M.Sc (Ag.) Horticulture Thesis submitted to Narendra Deva University of Agriculture and Technology, Faizabad, Uttar Pradesh, India.

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