

## POST HARVEST FLOWERING BEHAVIOUR OF SOME GLADIOLUS VARIETIES GROWN UNDER FAIZABAD CLIMATIC CONDITION

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**ABSTRACT** : The study was conducted to find out post harvest flowering behavior of some gladiolus varieties grown under Faizabad conditions. Results revealed that the per cent increase in spike length in vase was maximum in Red Sparkle at 4<sup>th</sup> and 8<sup>th</sup> day, and it was minimum in White Prosperity. Per cent opening of florets was maximum in Day Dreams at 4<sup>th</sup> and 8<sup>th</sup> day. Day Dreams also exhibited no floret dropping at 4<sup>th</sup> day. The longest vase life was found in Aldebaran, while Day Dreams exhibited shortest vase life.

**Keywords** : *Gladiolus*, cut flower, post harvest behaviour, floret dropping, vase life.

Commercial floriculture is one of the most profitable agro industries in the world (Ezhimathi *et al.*, 1). Decrease in cut flowers' quality from harvesting to market is a great problem for growers. Perishability of flowers make their physiological functions very actively even after harvest. Preference of varieties depends upon the post harvest flowering behaviour of flowers (Faraji *et al.*, 2). Gladiolus is a widely grown flower crop and mostly used in all purposes. In case of gladiolus flower increase in spike length, opening of florets, dropping of florets after senescence, volume of water uptake, and total sugar content affect the vase life of spikes. It vary from variety to variety. Idea about evaluation of varieties on the basis of their postharvest characteristics will give a brief idea about preference of variety by consumers which will be profitable for gladiolus growers under the conditions of Faizabad districts of Uttar Pradesh.

### MATERIALS AND METHODS

Total 11 varieties of gladiolus viz. V<sub>1</sub>-Wine and Roses, V<sub>2</sub>-Interpit Bicolor, V<sub>3</sub>-Red Sparkle, V<sub>3</sub>-Puppy Dear, V<sub>5</sub>-White Prosperity, V<sub>6</sub>-Pacific White, V<sub>7</sub>-Seventh Wonder, V<sub>8</sub>-Norallow Bicolor, V<sub>9</sub>-Aldebaran, V<sub>10</sub>- Day Dreams and V<sub>11</sub>-Red Beauty were chosen for experiment. All the readings on per cent increase in spike length, opening and dropping of florets, and vase life as well as volume of water uptake and total carbohydrate content were taken on 4<sup>th</sup> day, 8<sup>th</sup> day and 12<sup>th</sup> day. 500 ml 4% sucrose solution was taken as vase solution which is standard for gladiolus cut flower. Volume of water uptake was measured by: Final weight – initial weight of flask with solution with spike. For estimation of total carbohydrate content, 0.25g chopped perianth tissue fixed in ethanol macerated and centrifuged (3500X 10 min)

supernatant used for carbohydrate estimation by Paquan and Lechacer (4).

### RESULTS AND DISCUSSION

Data illustrated in Fig. 1, 2 and 3 revealed that per cent increase in spike length was maximum on 4<sup>th</sup> and 8<sup>th</sup> day in Red Sparkle and minimum in White Prosperity. There was no increase in spike length on 12<sup>th</sup> day. Per cent increase in opening of florets was found maximum on 4<sup>th</sup> and 8<sup>th</sup> day in Day Dreams, on 12<sup>th</sup> day: Aldebaran and minimum on 4<sup>th</sup> day in Wine and Roses, 12<sup>th</sup> day in Norallow Bicolor and on 12<sup>th</sup> day in White Prosperity. Drooping of florets was nil on 4<sup>th</sup> day, maximum on 8<sup>th</sup> and 12<sup>th</sup> day in Day Dreams and minimum on 8<sup>th</sup> day in Red Sparkle, Aldebaran, Red Beauty, Puppy Dear, on 12<sup>th</sup> day in Aldebaran and Pacific White. Vase life was longest in Aldebaran followed by Pacific White, which might be due to highest total carbohydrate content in case of Aldebaran followed by Pacific White. While Day Dreams exhibited the shortest vase life which might be due to lowest amount of total carbohydrate content and highest uptake of sucrose solution (Yadav, 5). Volume of water consumed was maximum on 4<sup>th</sup> and 8<sup>th</sup> day in Day Dreams, on 12<sup>th</sup> day in Wine and Roses, while it was minimum on 4<sup>th</sup> day, 8<sup>th</sup> day and 12<sup>th</sup> day in Seventh Wonder. Total carbohydrate content was maximum on 4<sup>th</sup>, 8<sup>th</sup> and 12<sup>th</sup> day in Aldebaran while minimum on 4<sup>th</sup>, 8<sup>th</sup> and 12<sup>th</sup> day in Day Dreams. Reduction in carbohydrate content after first day can be due to the increase in the respiration rate (Macnish *et al.*, 3). Per cent increase in opening of florets in earlier days (4<sup>th</sup> and 8<sup>th</sup> day) was maximum Aldebaran. Drooping of florets also was lowest on 4<sup>th</sup> day in Aldebaran.

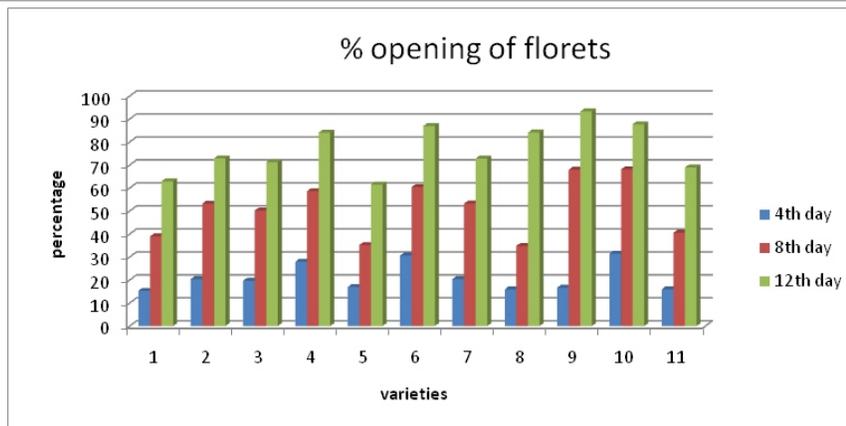
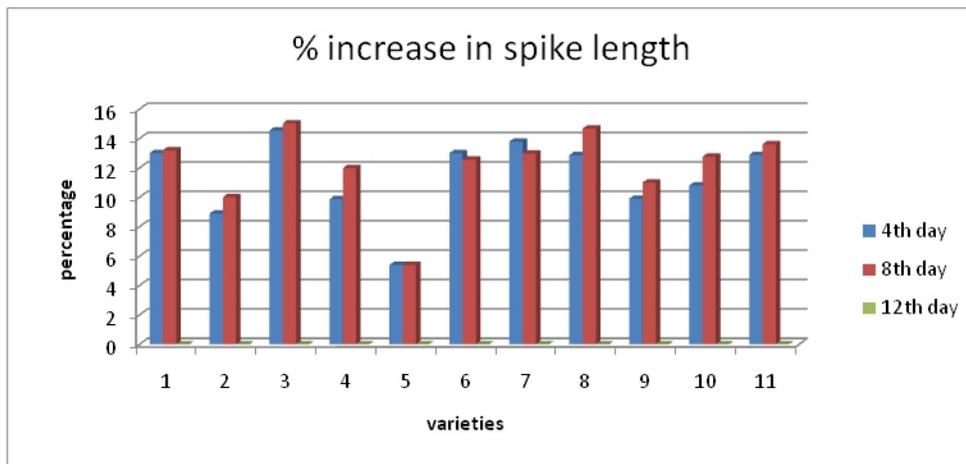


Fig. 3 : Per cent increase in spike length and opening of florets of gladiolus cut flowers in vase.

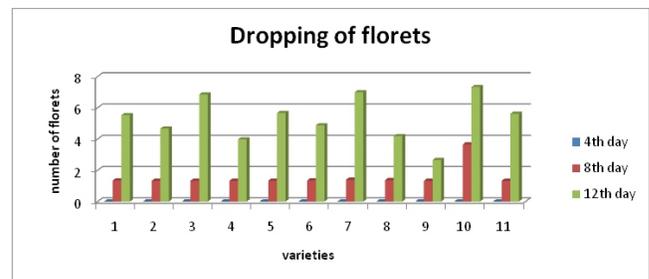
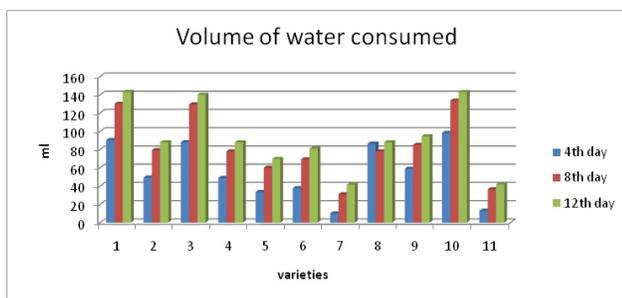


Fig. 2 : Per cent increase in water consumed and dropping of florets of gladiolus cut flower in vase.

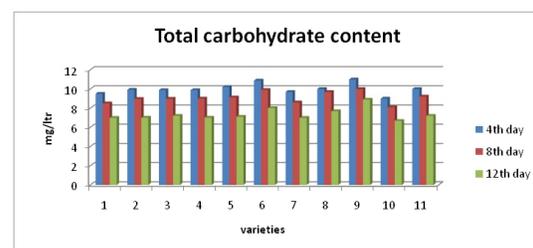
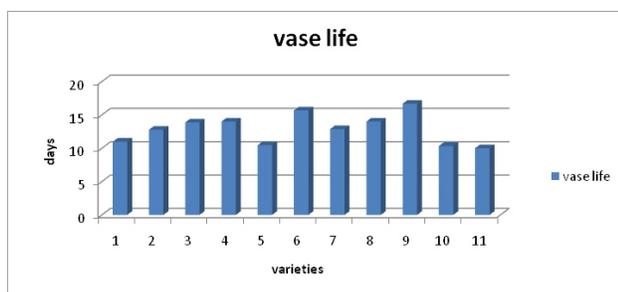


Fig. 3 : Per cent increase in vase life and total carbohydrate content in gladiolus cut flower in vase.

## Conclusion

Longest vase life is exhibited by Aldebaran followed by Pacific White. Average performances of Aldebaran variety with respect to per cent opening of florets, dropping of florets at a specific time which are important in preference of gladiolus variety for postharvest life lead to the recommendation of this variety to grow under arid climate of Faizabad district of Uttar Pradesh.

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