The Asian Journal of Horticulture, June 2007, Vol. 2 (1) : 92-94

Performance of selected chemical floral preservatives on the vase life and quality of cut gladiolus cv. "WHITE PROSPERITY"

JAVAID AHMAD PAL AND H. S. SIROHI

See end of article for authors' affiliations

Correspondence to :
Javaid Ahmad Pal
Department of Horticulture,
C.C.R. (P.G.) College,
MUZAFFARNAGAR (U.P.)
INDIA

Revised : *October, 2006*
Accepted : *December, 2006*

ABSTRACT

The spikes of gladiolus cv. White prosperity were cut when first bud started to open and were placed in vase solutions consisting of different concentrations of Aluminium sulphate, Cupric sulphate, Citric acid and Sucrose. Controls were placed in distilled water. All vases were placed at room temperature. Results of the experiment revealed that the spikes treated with (Aluminium sulphate + Cupric sulphate) – 250ppm + Citric acid - 200mg/l + Sucrose – 7% produced maximum vase life, longevity of flowers , size of flowers, maximum delay in opening and fading of florets, maximum solution uptake, maximum number of days to attain full bloom stage, maximum number of florets that remained open at a time, maximum fresh and dry weight of the spikes, produced cent per cent perfect flowering i.e., Zero per cent partial and unopening of florets and caused no any loss of florets through abscission, fungal attack etc. Treatment of the spikes with (Aluminium sulphate + Cupric sulphate) – 250ppm + Citric acid - 200mg/l + Sucrose – 5% produced maximum increase in the length of rachis. Where as, maximum increase ion the number of florets per spike was recorded with the treatment of (Aluminium sulphate + Cupric sulphate) – 300ppm + Citric acid - 200mg/l + Sucrose – 5%.

Key words : Chemicals, Vase life, Quality, Gladiolus.

Bulbous plants constitute one of the most important group of the floral basket of the country. Fragrance, colour and majestic excellence of these flowers for interior decoration and landscape gardening have been responsible for endearing their cultivation to garden lovers. Gladiolus is an important bulbous crop and occupies prime position in floriculture industry. Gladiolus (*Gladiolus grandiflorus* Linn) belongs to the family Iridaceae and sub-family Ixiodaceae with 30 basic chromosome number but the number present in the typical modern gladiolus is 60. The word gladiolus is derived from Latin word "gladius" which means "sword', because of the sword like shape of the leaves of this plant. Gladiolus has gained popularity in many parts of the world due to its unsurpassed beauty and economic value. Gladiolus is a flower of glamour and perfection. It is very much liked for its majestic spikes which contain attractive, elegant and delicate florets. It is undoubtly the best bulbous flower in India and ranks next only to Tulip in Holland. All the colours except true blue are available in gladiolus. It has been appropriately called as " Queen of bulbous flowers". The spikes of gladiolus are mainly used for garden display, interior decoration, making high class bouquets, flower arrangements, as specimen for exhibitions, as a landscape plant improves the aesthetic look, and for cut flower trade which fetches good price in big cities of India, besides having an export market.

The demand of cut blooms in the global market is increasing @ 10-15% each year and gladiolus is one among many which dominate the global trade. The flowers are highly perishable in nature and are subjected to post harvest losses and hence, have to be handled with utmost care. It is generally estimated that nearly 30% flowers perish during handling. The losses can be minimized by the use of some chemical floral preservatives. Chemical substances were used to prolong vase life and quality of cut gladiolus by different workers like Lal *et al.* (1990), Singh *et al.* (2003). The present investigation was an effort to improve vase life and other quality parameters by regulating the senescence process and microbial attack to reduce post harvest losses in floriculture industry.

MATERIALS AND METHODS

The present inveastigation was conducted in the Department of Horticulture, C.C.R.(P.G.) College, Muzaffarnagar, (U.P.) during the winter months of 2004-2005.The crop to get the cut flowers for the investigation was raised at the Horticultural Research Farm of the College. 54 healthy spikes with 1.05 m in length were selected at the bud stage when the first floret started to open for the investigation. Before placing them in the vase solutions, a little basal portion of the stems about 1.5 cm was cut from each of the spike and then immediately placed in the vase solutions kept in the plastic jars prepared