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Improvements in fresh weight losses and vase life as cut flowers during storage period through chemicals in cut gladiolus cultivars

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ABSTRACT

An experiment was conducted to evaluate the effect of various chemicals on fresh weight and change of pH of solvent. Vase solution sulphosalicylic acid + sources maintain higher fresh weight up to 18th days after the harvest of gladiolus. However, the spike under other solution starts to loose their of fresh weight from 6th days. The cut gladiolus under sulphosalicilic acid has extended vase life form 4.81 (control) to 12 days. The sulphosalicylic acid was found to acidity (2.3).

Key words: Fresh weight, Sulphosalicylic acid, Sucrose, Vase solutions vase life.

Senescence is a deteriorative change that causes in ceased mortality and is also explained as a process comprising those events, which lead irreversibly to death. Senescence represents the final stage that follows physiological maturity and leads to death of whole plant, organ, tissue or cell. It is determined genetically and governed by environmental factors during development.

The senescence of flower petals is associated with a series of physiological and biochemical changes. These include an increase in hydrolytic enzymes, degradation of macromolecules, increased respiratory activity and loss of cellular compartmentalization. Many of these processes are highly regulated and are the results of active metabolism (Mayak and Halevy, 1980). Analysis of total proteins isolated from carnation petals during the development of senescence revealed both increase and decrease in the levels of several polypeptides. *In vitro* translation of mRNAs isolated from carnation petals at various stages of development has shown that senescence is accompanied by changes in mRNA populations. This indicates that the development of petal senescence is associated with regulated chart, the gene expression (Woodson and Wang,, 1987).

MATERIALS AND METHODS

Spikes of four cultivars Vandana, Suryakiran, Chandani and Sunayna were produced at C.C.R. (P.G.) College Muzaffarnagar for the present work.

The cut spikes of gladiolus were transferred in the vase solution T1 = control, T2 = STS (1 mM), T3 = Sucrose (4%), T4 = sulphosalicylic acid, T5 = Sulphosalicylic acid (100 ppm) + sucrose (4%) and T6 = STS + sucrose (4%). The observation were recorded after 2, 4, 6 and 8 days on losses of fresh weight vase life of cut gladiolus and changes recorded in pH solutions.

RESULTS AND DISCUSSION

Fresh weight :

It is evident form Table 1 and 2 that the change in fresh weight of cut spike significantly differed among varieties and treatments with vase solutions also with days after harvest. On any given day the fresh weight of cut spike placed in different vase solutions was higher than those placed in distilled water. The cultivar Sunayna retained higher fresh weight than imitational on 18th days after harvest followed by Suryakiran and Chandni. The maximum fresh weight was change in case of Vandana during both the years.

The cut flowers spikes kept in vase solutions having sulphosalicylic acid (100 ppm) + sucrose (4%) retained higher fresh weight even on 18th day after harvest followed by spikes held in sulphosalicylic acid (100 ppm) which maintained higher fresh weight than their initial fresh weight upto 16th days, while, the spike under other treatments started to lose their fresh weight from 6th day onwards. Inability to absorb water is a very common reason for premature wilting. The water-conducting column in stem (exylem) become plugged. Bacteria or fungi proliferate in the containers holding the flowers. These microorganisms and their chemical products plug the stem and eventually block flowers can lead to wilting