



Research Paper

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Studies on effect of biocide and sucrose on post-harvest life of gladiolus cv. WHITE PROSPERITY

■ ANUJ KUMAR¹, JITENDRA KUMAR¹ AND ANIL KUMAR SINGH

Members of the Research Forum

Associated Authors:

¹Department of Horticulture, C.C.S. University, MEERUT (U.P.) INDIA
Email : anuj.hort@gmail.com

Author for correspondence :

ANIL KUMAR SINGH
Department of Horticulture, Institute of Agricultural Sciences, Banaras Hindu University, VARANASI (U.P.) INDIA

ABSTRACT : Gladiolus is an important cut flower crop is known for its magnificent and attractive arrangement of florets, exhaustive range of colors, which is used mainly for making bouquet. Gladiolus is grown many countries of the world. Since it used as a cut flower, vase life is an important character of cut flower which is influenced by various pre and post-harvest factors. Chemical preservatives play an important role to enhance the vase life. To examine this, an experiment was conducted to find out the influence of various preservatives on different post harvest attributes in gladiolus cv. White Prosperity. The laboratory experiment was conducted in Completely Randomized Design with three replications and used different concentration of sucrose, AgNO₃ and 8-HQC. After harvesting, spikes were kept in bucket containing water and brought to the laboratory then spikes were placed in beaker which contain solution. Experiment consisted of sucrose 2 per cent, sucrose 2 per cent + 8-HQC 400 ppm, sucrose 2 per cent + AgNO₃ 400 ppm, sucrose 4 per cent, sucrose 4 per cent + 8-HQC 400, sucrose 4 per cent + AgNO₃ 400 ppm, 8-HQC 400 ppm, AgNO₃ 400 ppm and control (distilled water) treatments. The data revealed that sucrose and biocide treatments significantly influenced the different post-harvest attributes in gladiolus viz., uptake of solution, vase life, floret diameter, floret opened percentage and floret opened per spike. Maximum uptake of solution was observed with sucrose 2 per cent + 8-HQC 400 ppm treatment, whereas minimum with sucrose 4 per cent. Similarly maximum floret diameter (cm) and maximum percentage of opened florets also resulted with sucrose 2 per cent + 8-HQC 400 ppm treatment. Maximum vase life of cut spike of gladiolus was recorded with sucrose 2 per cent + 8-HQC 400 ppm, whereas minimum with control.

KEY WORDS : Bioside, Vase life, Gladiolus, Carbohydrates

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Gladiolus have important position in cut flower industry of the India as well as world. It is used for the making of bouquets and other decoration purposes. Cut gladiolus spikes suffer from relatively short vase-life. Among the most common reasons for early senescence of fresh cut spikes are both the inability of stems to absorb water due to their blockage and the short supply of carbohydrates to support respiration (Halevy and Mayak, 1979 and Murali and Reddy, 1993). The inability of stems to absorb water is a very common reason for premature wilting. Low carbohydrate is another reason for flowers deterioration. Supplying cut flowers with carbohydrate sources could prolong flower vase life and improve flower quality. Several

studies indicated that the floral preservatives should perform two functions: provide carbohydrate, and supply a bactericide to prevent microbial growth and to block water-conductive system in the stem (Halevy and Mayak, 1979 and Han, 1998). Although the role of external carbohydrate supply on photosynthetic pigments may be less clear (Bosma and Dole, 2002), however, some research stated that photosynthetic pigments are positively correlated with the supply of carbohydrates. The objective of this study was to determine the effect of biocide (AgNO₃ and 8-HQC) and various concentrations of sucrose on the vase life of cut gladiolus cv. WHITE PROSPERITY.