

Title The effect of integrated chemical solutions on longevity, quality and petals cellular changes of hybrid gladiolus (*Gladiolus grandiflorus*)

Author Masood Khezri, Shahin Rostami, Ali Alizadeh, and Faranak Hadavi

Citation Abstracts of 27th International Horticultural Congress & Exhibition (IHC 2006), August 13-19, 2006, COEX (Convention & Exhibition), Seoul, Korea. 494 pages.

Keywords Gladiolus; postharvest quality; cut flower longevity; cellular changes

Abstract

Gladiolus (*Gladiolus grandiflorus*) is a favorite hybrid cut flower in international trade. It is important for gladiolus producers to find new methods for increasing the longevity and postharvest quality of cut flowers to decrease production losses. Selected corms of “Scar” cultivar were planted using a randomized complete block design (RCB) in a soil enriched with organic matter using a regular irrigation program throughout the growing season. Spikes similar in size and shape were picked at the standard time of harvest. Some chemical solutions were applied on selected cut flowers using completely randomized design (CRD) and factors including flower longevity, water absorption, dry and wet weight and abscission percent of flowers were measured;. In addition, cellular changes and position of petals were evaluated for each treatment. The experiments was conducted in two stages; first, sucrose, silver nitrate, citric acid, calcium nitrate and sodium hypochlorite with different concentrations were tested separately and compared with control flowers in distilled water at 20°C. Sucrose (3%), silver nitrate (25 ppm), citric acid (300 ppm), calcium nitrate (25 ppm) and sodium hypochlorite (2%) induced the longest shelf life of cut flowers ($p<0.05$). Second, integrated treatments were applied based on the results of the first experiment. The integrated treatment that included g sucrose (3%), citric acid (300 ppm) and silver nitrate (25 ppm) was the best treatment for increasing longevity and quality of gladiolus cut flowers ($p<0.05$), and could be recommended to producers to decrease postharvest gladiolus losses.