

Enhancing vase life of *Gerbera jamesonii* by using glucose and calcium nitrate

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ABSTRACT

Gerbera (Gerbera jamesonii) is an ornamental cut flower which possesses high demand on commercial scale in Sri Lanka. But bent neck due to low stem thickness is a major issue associated with gerbera in floral decorations. Therefore present study was aimed to find out the best calcium concentration to produce of high quality stem of *Gerbera jamesonii* as a pre-harvest treatment. The Experiment was conducted at the Gerbera plant house located at Botanic Gardens, Henarathgoda, Gampaha by using potted (pot mixture consists of 1:1:1 sand: coir dust and half burned paddy husk) tissue cultured Gerbera plants, i.e. Variety Fredi. The experiment was arranged as a Completely Randomized Design (CRD) with six treatments randomized in three replicates. Treatments were the six different calcium concentrations (g), i.e. 0 (control), 0.25, 0.15, 0.1, 0.2 and 0.3 applied to the plants in every three weeks. All cultural practices were done similar to other plants. Once a week measurements were taken on height of the stem, stem thickness, number of leaves per plant as well as the head diameter. The data obtained were tabulated and analyzed subjected to the Analysis of Variance (ANOVA) procedure of Statistical Analysis System (SAS). Duncan's New Multiple Range Test (DNMRT) was performed to compare the differences among treatment means at $p=0.05$. Stem thickness (mm) had significant differences ($p<0.05$) among different calcium concentrations tested. The highest stem thickness was recorded from the highest calcium concentration applied treatment, i.e. 0.3g whiniest the lowest from no calcium applied treatment, i.e. control. Head diameter was not significantly different ($p>0.05$) within calcium levels of 0.15 and 0.2. Furthermore the highest stem height, head diameter as well as number of leaves per plant recorded from the highest calcium concentration applied plants. However, number of leaves per plant was not significant different ($p<0.05$) among high calcium concentrations, i.e. 0.3, 0.2 and 0.1. Overall results showed that the application of 0.3g of calcium was the most effective treatment to produce of high quality stem of *Gerbera jamesonii*.

Key words: *Gerbera jamesonii*, calcium concentrations, stem thickness, quality flowers

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