Effect of pulsing and wet cold storage on post harvest quality and vase life of cut Gladiolus (*Gladiolus Grandiflorus*) L. CV. Fado

Abstract

Floriculture is among Kenya's top foreign exchange earners..*Gladiolus* is one of the four famous cut flowers in the world whose popularity in Kenya is attributed to its heat tolerance, many spike forms and color combinations.. However, the perishable nature of the flower renders it vulnerable to huge post-harvest losses. The study aimed to evaluate pulsing effect of cut *Gladiolusgrandiflorus* L. CV, Fado with 600 ppm 8-hydroxyquinoline sulphate plus 5 % sucroseprior to wet cold storage duration (0 – 5 days) on quality and vase life against the control (distilled water). The *Gladiolus* were grown in the open field from corms at the Horticulture Research and Teaching Field, in the department of Crops, Horticulture and Soils, Egerton University, Kenya, during two successive seasons. .A two by six factorial experiment embedded in a completely randomized design with four replicates was adopted. Pro GLM model in two way Anova was to determine differences in pulsing and cold storage treatments on the flower quality and vase life. Differences in means were determined using Tukey's test at 5 % level of significance. Pulsing treatment had significant effects on the Gladiolus quality parameters including: fresh weight ($P = 0.0031$; 82.214 ± 0.7934 grams) as compared to the control; dry weight ($P = 0.0272$); interactive effect of the pulsing and cold storage duration treatments ($P = 0.0004$); maximum vase life (11.5 ± 0.287 days) and opened florets (11 ± 0.15). The highest number of unopened buds (5.18 ± 0.212) were recorded in the control which also had least mean water uptake (23.87± 0.26 mls) as compared with the pulsed and cold stored spikes ((31.98 ± 0.193 mls).The knowledge gained from this study will augment existing technologies in improving quality and market value of this cut flower.

Key Words: Pulsing; Cold Storage: Gladiolus, Quality