

# **EFFECT OF SOME POSTHARVEST TREATMENTS ON SOME CUT FLOWERS**

**By**

**ENAS ALI YOUSSEF ELSHEREEF**

**B.Sc. Agric. Sci. (Horticulture), Fac. Agric., Cairo Univ., Egypt, 2005**

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**APPROVAL SHEET**

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**Approval Committee**

**Dr. Mona Hassan Mahgoub.....**  
**Researcher Professor of Ornamental Plants and Woody Trees, NRC,**  
**Dokki, Giza**

**Dr. Abou- Dahab Mohammed Abou- Dahab.....**  
**Professor of Ornamental Horticulture, Fac. Agric., Cairo University**

**Dr. Mona Ahmed Darwish .....**  
**Professor of Ornamental Horticulture, Fac. Agric., Cairo University**



**SUPERVISION SHEET**

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**SUPERVISION COMMITTEE**

**Dr. MONA AHMED DARWISH**

**Professor of Ornamental Horticulture, Fac. Agric., Cairo University**

**Dr. OLFAT HAMED EL-SHAITY**

**Assistant Prof. of Ornamental Plants, Fac. Of Agric., Cairo University**

**Dr. FATMA ELNABAWIA MOHAMED EL-QUESNI**

**Researcher Professor of Ornamental Plants and Woody Trees, National  
Research Centre, Dokki , Giza**



**Name of Candidate:** Enas Ali Youssef ElShereef **Degree:** M.Sc.  
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**Supervisors:** Dr. Mona Ahmed Darwish

Dr. Olfat Hamed El-Shaity

Dr. Fatma Elnabawia Mohamed El-Quesni

**Department:** Ornamental Horticulture

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#### **ABSTRACT**

The experiment was carried out at postharvest laboratory of the Department of Ornamental Plants and Woody Trees, National Research Centre during two successive seasons ( 2007/2008 and 2008 /2009) to investigate the effect of some chemical preservatives on the vase life of carnation and solidago cut flowers to improve its quality and extend the shelf life period. Results of the first experiment showed that carnation flowers were treated by 300 ppm 8-HQS +40 g/l sucrose prolonged the vase life and caused the maximum increase in fresh weight, the lowest % of weight loss at initial days, increased water uptake in cut flowers and highest level of water balance and highest value of dry weight highest values of reducing sugars in both seasons. Most of tested vase solutions significantly increased water uptake with increasing days of shelf life period up to 10 days, 0.4mM STS for 6 h. + 50 g/l sucrose gave the best results. using 150 ppm 8-HQS + 20 g/l sucrose gave the highest values of chl. a, b and total carotenoids, the highest values of total and non- reducing sugars were found when carnation cut flowers pulsed in 50 ppm GA<sub>3</sub> for 24h. then placed in 200 ppm 8-HQS in both seasons.

Results of the second experiment indicated that treatment of solidago cut spikes with 0.4 mM STS for 6 hours gave the best results in prolonging vase life, highest values of maximum increase in fresh weight. Using 0.4 mM STS for 6h. +50g/l sucrose gave the highest level of water uptake. Treating solidago with 300 ppm 8-HQS + 40 g/l sucrose gave the best results in maximum increase in fresh weight%, decreased weight loss% at initial days, gave the lowest value of water loss, maximum value of chl. a, b and total carotenoids, highest value of water balance and dry weight. Using 50 ppm GA<sub>3</sub> for 24 h. then placed in 200 ppm 8-HQS gave the highest values of total and non-reducing sugars while the highest value of reducing sugars were found when treated solidago with 50 ppm BA for 24h. then placed in 200 ppm 8-HQS

**Keywords:** Carnation, *Dianthus caryophyllus*, *Solidago canadensis*, preservative solutions, vase life, keeping quality, chemical constituents.





## DEDICATION

*To all those without whom this thesis might not have been written. Great appreciation for their inspiration, supporting good wishes and patience.*

*To my wonderful parents "Ali ELShereef & Manal Nassar", my husband "Mohamed Hamed", my lovely kids "Ahmed & Adam", my lovely brother "Mahmoud" and my adorable beloved sisters "Aml & Ebtahal". I would like to express my deepest gratitude and love for all of them.*



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