

Title Effect of preservative solutions on vase life of stock (*Matthiola incana* L.)

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Abstract

Stock is an important cut flower crop in Iran which has been exposed with an immense demand in recent years. Post harvest problems were caused less quality and lower vase life of this flower. The influence of three treatments consisting: 1) distilled water (control). 2) 8-hydroxyquinoline sulphate (0, 100, 150, 200 ppm) and 3) sucrose (1, 2, 3%) at room temperature. The experiment was conducted as a factorial design on the basis of randomized complete design with four replications and factors related to the vase life and flower quality including fresh weight, water uptake, stem hydraulic conductance, soluble carbohydrate concentration and inflorescence length were measured. The results indicate that preservatives solution of 8-hydroxyquinolione sulphate at 150 ppm and 2% sucrose were the best treatment for high quality and vase life. In addition, 8-hydroxyquinoline sulphate at 150 ppm caused vase life increment and stability of hydraulic conductance. There was a positive correlation between sugar concentrations of flower, leaf and inflorescences with stem length increment and flower vase life. The results indicated that soluble carbohydrate concentration in flower, leaf and stem is one of the detrimental factors in vase life.