Title Influence of cold storage, 8-hydroxyquinoline sulfate and sucrose on vase life and quality of cut stock flowers (*Matthiola incana* L; cv. Asanami)

Author Mostafa Arab, Ahmad Khalighi, Kazem Arzani, Rohangiz Naderi and Narjes Mohamadi

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

Keywords cut stock flower; 8-hydroxy quinolin sulfate; sucrose; cold storage; vase life; hydraulic conductance

Abstract

Stock flower is one of the main ornamental plants in Iran that has experienced increased demand in recent years, because of its various colors, beauty, and aroma. Postharvest problems reduce quality and vase life in this flower. In an attempt to increase quality during storage and shelf life the following treatments were evaluated: (1)-water (control), (2)- 8-hydroxyquinoline sulfate (150 mg-lit^{-1}) + sucrose (2%), and (3)-8-hydroxyquinoline sulfate (150 mg-lit^{-1}) at three temperatures (4, 8 and 12°C). 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 and inflorescence length. High temperature caused early blooming and shortening vase life. Treatments 2 and 3 increased vase life and stability of hydraulic conductance at all three temperatures. However, treatment 2 increased vase life at 4°C more than other treatments. Fructose, glucose and sucrose concentrations increased in flower, stem and leaf in treatment 2. There was a positive correlation between sugar concentration of flower, leaf and inflorescence with stem length increment and flower vase life. Therefore soluble carbohydrate concentrations in flower, leaf and stem have a major influence on postharvest flower quality and vase life.