Effect of silver and copper on *Tropaeolum majus* flowers senescence

T.P. Silva, F.F. de Araújo, L.S. Oliveira, J.S. Lima, F.L. Finger

Acta Horticulturae 1060: 301-306. (2015)

Abstract

Nasturtium flowers have ease of cultivation and responses to ethylene, so, it was used as a model plant. Physiological interactions between ions Ag^{+} and Cu^{2+} on the responses to ethylene in detached *Tropaeolum majus* flowers were determined in this work. Individual fully opened flowers were dipped for 30 s in 2 mM sodium thiosulfate (STS) or 0.2 mM silver nitrate solution. Immediately or after 15, 30, 45 and 60 min, flowers were dipped in 1 mM copper sulfate and, afterwards maintained in distilled water until petals were wilted. Flowers treated with STS showed the lowest daily fresh weight loss (4.2%) compared to flowers of other treatments (6.8%) slowing the petal wilting. Flowers dipped in silver nitrate had less fresh weight lost than with the STS treatment. Treatment with copper sulfate nullified the positive effect of STS or silver nitrate. Flowers treated with STS or silver nitrate showed the senescence symptoms up to 48 h, later than flowers from the remaining treatments. The flower longevity of copper treatment was similar to that of flowers dipped just in water. Results of this experiment clearly show that copper is able to restore the ethylene effects on silver treated flowers.