

عنوان مقاله:

A Study on the Feasibility of Replacing Silver Nitrate with Natural Compounds in Preservative Solution of Gerbera jamesonii Cut Flowers

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خلاصه مقاله:

Gerbera(Gerbera jamesonii) from the family of Asteraceae is regarded as one of the best cut flowers in the world. Despite of the publicity of Gerbera's cut flowers, they have a short postharvest life. The objective of the present study was to study the replacement feasibility and the comparison of thymol (isolated from zataria), and essential oils of peppermint and rosemary (۲۰۰, ۴۰۰ and ۶۰۰ mg l⁻¹) with silver nitrate (۲۰۰ mg l⁻¹) in vase solution of gerbera cut flowers in order to increase vase life and some quality traits. The recorded traits were vase life, carotenoid, solution uptake, relative fresh weight, flower diameter, total dissolved solids and pH. The experiment was laid on a factorial arrangement based on a randomized complete block design with three replications. Means comparison revealed that the highest vase life was related to the treatment of silver nitrate, however, flowers treated with thymol (۲۰۰ mg l⁻¹) in comparison with other natural treatments, had the highest vase life and did not show significant differences with silver nitrate. The treatment of peppermint essential oil (۲۰۰ mg l⁻¹) resulted in the highest carotenoid level. The highest relative fresh weight and solution uptake were obtained for the thymol treatment (۲۰۰ mg l⁻¹). The highest amount of total soluble solids and flower diameter were obtained in the silver nitrate treatment. The lowest pH was obtained from the treatment of ۶۰۰ mg l⁻¹ peppermint essential oil. In total, it can be concluded that thymol and the essential oils of peppermint and rosemary can be used in vase solution of gerbera cut flowers. Further research using other natural compounds is required to find out the appropriate compound and also concentrations in order to help the environment conservation and improve human health in addition to increase the vase life of cut flowers.

کلمات کلیدی:

Gerbera, Natural Compounds, Silver nitrate, Vase life

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