

عنوان مقاله:

Vase life and antioxidant status of two carnations (*Dianthus caryophyllus* L.) cultivars affected by gamma aminobutyric acid (GABA) treatments

محل انتشار:

مجله باغبانی و تحقیقات پس از برداشت، دوره 4، شماره 15 (سال: 1400)

تعداد صفحات اصل مقاله: 12

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خلاصه مقاله:

Purpose: Carnation (*Dianthus caryophyllus* L.) is one of the most popular and economically important cut flowers worldwide ranking the third after rose and chrysanthemum. The vase life of many carnation cultivars is short due to sensitivity to ethylene or other factors. This research was performed to study effect of gamma aminobutyric acid (GABA 0.5, 0.75 and 1mM) on postharvest quality of tow famous carnation cultivars viz. Delphi (white) and Dob Pedro (Red). **Research method:** The experiment was conducted as completely randomized design (CRD) with five replications per treatment. **Findings:** The results indicated that all concentrations of GABA significantly prolonged the vase life in both cultivars. GABA decreased lipid peroxidation of petal tissue while increased the activity of some antioxidant enzymes such as catalase (CAT), ascorbate peroxidase (APX), superoxide dismutase (SOD) and guaiacol peroxidase (GPX). Polyphenoloxidase (PPO) activity was also decreased in GABA-treated cut flower. Interestingly, both cultivars responded similarly to GABA treatments. The findings also revealed that GABA had antioxidant properties capable of increasing defense ability of the carnation cut flower. Meanwhile, the applied concentration is very critical and should be taken into account. Based on the present findings, the best treatment is GABA at 0.75 mM. **Limitations:** No limitations were encountered. **Originality/Value:** The results of this research indicated that GABA had antioxidant properties capable of increasing defense ability of the carnation cut flower. It appears that the applied GABA operates through membrane conservation, increasing the activity of antioxidants enzymes and decreasing PPO activity.

کلمات کلیدی:

Ascorbate peroxidase, Cut flower, lipid peroxidation, Polyphenol Oxidase, Postharvest

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