

عنوان مقاله:

Synergistic Effect of Gamma Irradiation and Methyl Jasmonate on the Postharvest Quality of Fresh Apricots (*Prunus armeniaca* cv. 'CITH-1') Stored under Refrigeration

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خلاصه مقاله:

Apricots being highly perishable and often results in significant postharvest losses that affect their marketability and commercial viability. A study was conducted to investigate the synergistic effect of postharvest application of gamma irradiation and Methyl Jasmonate (MeJ) on the quality, enzyme-specific activities, and shelf life of the apricot (*Prunus armeniaca* cv. 'CITH-1'). Apricots were gamma irradiated at a dosage of 0.5 kGy and submerged in different concentrations of MeJ before being refrigerated ($\pm 1^{\circ}\text{C}$, RH 80-85%) for 35 days. Apricots treated with a 0.5 kGy dose and 0.1 mmol L⁻¹ MeJ followed by refrigeration significantly ($P < 0.05$) retained higher levels of antioxidant activity. The quality of apricots was effectively preserved, and their shelf life was extended through treatments of 0.5 kGy irradiation dosage and 0.2 mmol L⁻¹ MeJ, which significantly ($P < 0.05$) reduced decay percentage, weight loss, and enzyme activity while maintaining fruit firmness. The study's results suggest that applying a postharvest treatment of MeJ at a concentration of 0.1 and 0.2 mmol L⁻¹ in combination with an irradiation dosage of 0.5 kGy is a viable method for preserving the quality and bioactive compounds of fresh apricots during refrigerated storage for up to 35 days.

کلمات کلیدی:

Antioxidant activity, Decay percentage, Enzyme-specific activities, Firmness, Postharvest shelf life

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