

Abstract

Peppers (*Capsicum annum* L. cv. Zafiro), having 90% red color, were treated with UV-C light (7 kJ m^{-2}) and stored at $10 \text{ }^{\circ}\text{C}$ for 18 days. The UV-C treatment reduced decay. UV-C-treated peppers also kept firmer and presented lower carotenoid content and superficial color than control fruit. The treatments did not produce changes in fruit sugar content. After 18 days of storage at $10 \text{ }^{\circ}\text{C}$ non-treated fruit showed a reduction in pH, suggesting higher damage and tissue disruption. To evaluate the effect of UV-C on chilling injury, fruit were UV-C-treated and stored for 15 and 22 days at $0 \text{ }^{\circ}\text{C}$ plus 4 days at $20 \text{ }^{\circ}\text{C}$. UV-C treatments reduced chilling injury incidence and severity. UV-C-treated fruit also presented lower electrolyte leakage, respiration rate, and phenolic compound content suggesting lower damage in response to low temperature storage.

Results suggest that the UV-C treatments could be a useful way of reducing decay and maintaining bell pepper fruit quality. Furthermore, chilling injury incidence and severity could be reduced by short UV-C treatments.