

Chilling injury alleviation in 'Golden Bell' sweet pepper caused by UV-C treatment

S. Promyou, S. Supapvanich

Acta Horticulturae 1011: 357-362. 2013.

Abstract

The objective of this study was to investigate the effect of UV-C treatment in alleviation of chilling injury (CI) in 'Golden Bell' sweet pepper fruits. Sweet peppers, having 90% yellow color, were treated with UV-C light at 2.2, 4.4 and 6.6 kJ/m² and then stored at 4°C. The CI evaluation, weight losses, firmness, total carotenoid content, antioxidant capacity and the activities of catalase (CAT) of the sweet pepper fruits treated with UV-C were monitored. The results showed that UV-C treatment at 6.6 kJ/m² had more efficiency on reducing chilling injury and retaining fresh weight and firmness than other treatments. No significant difference in total carotenoid content was detected in the fruits treated with UV-C and the control over storage. Sweet pepper treated with UV-C 6.6 kJ/m² significantly enhanced antioxidant capacity and CAT activity, which were concomitant with the alleviation of CI during refrigerated storage.