

Title Combination treatments of UV-C irradiation and diphenylamine on chilling injury of bell pepper (*Capsicum annuum* L.)

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Citation Book of abstracts, APS2010 & SEAsia2010 & GMS2010, August 2-4, 2010, Radisson Hotel, Bangkok, Thailand

Keyword Chilling injury; bell pepper; UV-C

Abstract

The effect of UV-C irradiation combined with diphenylamine (DPA) on reducing chilling injury (CI) of green bell pepper 'Spartacus' (*Capsicum annuum* L.) stored at 4°C 90-95% RH was performed. UV-C irradiation at 7 kJ/m² reduced CI symptom of stored fruit which corresponded to reduction of electrolyte leakage from the cells, malondialdehyde (MDA) content and ethylene production of the fruit. Moreover, green bell pepper irradiated with UV-C at 7 kJ/m² and then dipped in 12 mM DPA for 1 min prior to 4°C storage exhibited the best of overall qualities, the lowest levels of electrolyte leakage and MDA content. The combination of UV-C and DPA reduced the activities of lipoxygenase (LOX) and superoxide dismutase (SOD) but induced antioxidative process by activating catalase (CAT) and ascorbate peroxidase (APX) activities.