Occurrence, manifestation and alleviation of chilling injury of hot peppers (*Capsicum chinense* L.)

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Abstract

Hot pepper fruits were sealed-packaged in 0.035 mm thick micro-perforated and sealed high density polyethylene bags (HDPE) at 5, 10, 20 and 30°C in separate storage rooms and examined at 5, 10, 15, 20 and 25-day intervals for marketable quality, chilling injury, bioelectrical resistance (BER), electrolyte leakage (EL), in-package and in-fruit carbon dioxide and ethylene concentrations and percentage decay-free fruits. Fruits packaged in micro-perforated bags stored best at 10°C with the level of decay-free fruits at 96.1% after 25 days. Incipient chilling injury without visible symptoms after short storage periods at 5°C was detected both by reduced BER and increased EL but the former measurement was more sensitive in detecting chilling injury than the latter. Changes in both measurements reflected changes in membrane permeability.