Title Evaluation of commercial alternatives to reduce postharvest pitting of organically grown zucchini and cucumber

Authors J.M. Fonseca, R.A. Cinco

Citation ISHS Acta Horticulturae 712: 285-290. 2006.

Keywords peel; relative humidity; water loss

Abstract

Postharvest pitting in organic cucumber and zucchini is a major problem in the market chain. Losses due to postharvest pitting occur either at the production site, packinghouse, distribution center or retail site, especially when sensitive commodities are shipped to distant markets. Our goals were to determine the origin of pitting in cucumbers and zucchini, and to identify feasible options that could be commercially incorporated to minimize this quality defect. We examined relative humidity, and associated water loss as potential triggers of the development of pitting. In commercial conditions we observed development of pitting as quickly as 6 h after harvest, particularly in zucchini. Postharvest pitting was eliminated with high relative humidity in the patio of the packinghouse and when the product was bagged. We also studied the effect of Biocoat®, a beeswax base organic certified wax, on pitting. Zucchini and cucumber coated with the beeswax product showed a significant reduction of over 50% when stored for more than 7 days. This study revealed that postharvest pitting at non-chilling temperatures in zucchini and cucumber is directly associated with rapid water loss during the first few hours after harvest. It was also shown that bagging and beeswax-base coating eliminate or delay the appearance of pitting during postharvest storage. These results have implications for the organic vegetable industry.