

Abstract

Chilling injury is the major factor discounting the effect of low temperature on ripening and rotting control of warm season fruits. Honey dew (*Cucumis melo* L. var. *indorus*) fruits from different breeding backgrounds and growing season and conditions were stored for up to four weeks at four constant temperatures and then ripened at room temperature (19-20°C) for 3 days to induce chilling injury.

The results showed that critical temperature of honey dew was around 7°C with no significant differences among cultivars and growing conditions. Melon fruits from different growing seasons differed in symptom emerging time under chill temperatures, suggesting minor environmental effects on plastic chilling injury susceptibility of honey dew. According to visual symptoms, chilling injury development in honey dew melons can be identified into three phases: translucent water-soaking, surface pitting and browning. Cultivar difference in chilling injury symptom types and middle temperature domino effect on development of the chilling injury symptom was found.