

Title Differential response of zucchini varieties to low storage temperature
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Abstract

Several parameters related to cold damage in zucchini have been measured in fruits from different varieties cultivated in the province of Almería (south-eastern Spain). The purpose of this work is to correlate physiological parameters with commercial quality and chilling damage, in order to establish reliable criteria for selecting varieties having better genetic adaptation to low-temperature storage. The results show that, for varieties harvested during February, the variety Natura was the best adapted to storage at 4 °C, as its fruits suffered less from chilling injuries, had a lower weight loss, and the levels of metabolites malonyldialdehyde and H₂O₂ were not as high as in the other varieties. Genetic variation was detected for some of the parameters analysed. The positive correlation among the levels of MDA, H₂O₂, and chilling injury, as well as the negative correlation among catalase and chilling injury, makes these parameters good indicators of chilling damage in our system.