

Title Regulation of O₂ levels in controlled atmosphere storage on the respiratory and activity of TCA cycle relates enzymes in cucumber fruit

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Abstract

Respiratory pattern and succinate dehydrogenase (SDH) activity in cucumber fruit stored in 5%, 21% (air control) and 100% O₂ at 5°C were studied. Storage in 100% O₂ at 5°C was most effective for suppressing the respiratory rate in cucumber fruit, the rate being lower than in fruit stored in either 5% O₂ or air. Relative activity of SDH in cucumber fruit stored in 100% O₂ was lower than in other storage conditions. Only slightly different SDH activity was recorded between control and 5% O₂-treated fruit. Northern hybridization with a partial cDNA of cucumber shdB as a probe revealed a constant level of shdB gene expression during storage. These results suggesting that change of SDH is post-transcriptionally regulated.