

Abstract

The effects of controlled atmosphere (CA) at 5, 21 (air, control) and 100% O₂ on chilling injury, respiratory, hydrogen and peroxide formation at 5°C in cucumber fruit were determined. The appearance of chilling injury symptoms in cucumber was delayed in both CA treatments; 100% O₂ effectively reduced pitting than did the 5 % O₂ treatment. Respiration and ethylene production rates were suppressed in cucumber fruit stored at 5°C to a greater extent in 100% O₂ than in 5% O₂ and air. The increase of membrane permeability and weight loss from cucumber had no significant different between treatments. Hydrogen peroxide concentration of cucumber fruit stored in 5 and 100% O₂ temporarily increased on day 1 then declined lower than those of control fruit throughout the storage. These result revealed that both of CA conditions might suppress the oxidative process in cucumber fruit during cold storage.