

Title Effects of O₂ and CO₂ concentrations on physiology and quality of litchi fruit in storage
Author Shi-Ping Tian, Bo-Qiang Li and Yong Xu
Citation Food Chemistry Volume 91, Issue 4, August 2005, Pages 659-663
Keyword Litchi fruit (*Litchi chinensis* Sonn. cv Heiye); Physiological properties; Quality attributes; O₂ and CO₂ concentration; Storage

Abstract

Litchi (*Litchi chinensis* Sonn. cv Heiye) fruit were stored in air, modified atmosphere packaging (MAP) and controlled atmospheres (CA) at 3 °C to determine the effects of different O₂ and CO₂ atmospheres on physiology, quality and decay during the storage periods. The results indicated that CA conditions were more effective in reducing total phenol content, delaying anthocyanidin decomposition, preventing pericarp browning, and decreasing fruit decay in comparison with MAP treatment. Polyphenol oxidase (PPO), peroxidase (POD), anthocyanin and total phenols were involved in cellular browning. High O₂ treatment significantly limited ethanol production of litchi flesh in the early period of storage. The fruit stored in CA conditions for 42 days maintained good quality without any off-flavour.