

Title Effects of microperforated polyethylene bags and temperatures on the storage quality of acid lime fruits

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Citation Program and Abstract. 2007 Australasian Postharvest Conference. Crowne Plaza Terrigal, NSW, Australia. 12 September 2007. 87 p.

Keywords lime; packaging; microperforated polyethylene bag

Abstract

The potential of 30 µm thickness polyethylene bags, no-bags (control), 1x40, 2x40, 3x40 and 4x40 microperforations for maintaining the quality of "Key" acid lime fruits during storage has been investigated. The influence of storage temperatures (10 and 20 °C) and storage periods (3 and 6 weeks) was also evaluated. The greenest and firmest fruits were found in microperforated polyethylene bags compared with no polybags when stored at 10 °C. At 20 °C, fruit were less green and firm, although fruit kept in microperforated polybags were consistently greener than fruit without polybags. The benefit of using microperforated polybags declined with increasing storage period. However, total soluble solid (TSS), fruits firmness, vitamin C and a* value (green-red) of fruits was higher ($p < 0.05$) with 1x40 microperforated polyethylene bags, compared to the other treatments. The incidence of decay, particularly in fruits stored at 20 °C is a major limitation to the use of microperforated polybags for long-term storage. The results indicate that the potential for commercial use of microperforated polybags is limited to short-term storage especially at room temperatures.