

Title Applications of volatiles in ginger essential oil can reduce microorganisms in shredded green papaya

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Citation ISHS Acta Horticulturae 804:439-444. 2008.

Keywords shredded green papaya; ginger oil; gas chromatography/mass spectrometry

Abstract

Shredded green papaya was placed in the gas-tight plastic box together with 0, 5, 10, and 15 μ l of ginger oil. The product-package system was stored at 13°C for 4 days. Daily during storage, the quantity of volatile and population of bacteria, yeast, and mold were determined. Major volatiles detected in the headspace of gas-tight plastic box were α -pinene, camphene, β -phellandrene, and 1,8-cineol. Volatiles compounds in the package of 15 μ l ginger oil can be detected up to 3 days of storage. In the package with 5 and 10 μ l ginger oil, volatiles were detected at the beginning of storage and up to 2 days of storage, respectively. Volatiles detected in the headspace of the package was sufficient to reduce bacteria and yeast in shredded green papaya. The package with 5 and 10 μ l ginger oil reduced population of bacteria and yeast by slowing down the growth rate while incorporating 15 μ l ginger oil in the package reduced the initial load of microorganism but results in greater growth rate after this initial reduction.