Title	Impact of plant essential oils on microbiological, organoleptic and quality markers of
	minimally processed vegetables
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Citation	Innovative Food Science & Emerging Technologies, Volume 10, Issue 2, April 2009,
	Pages 195-202
Keywords	Essential oils; Spoilage; Sensory; Volatiles; Lettuce; Carrot; Ready-to-eat

Abstract

The objectives of this study were to evaluate the efficacy of plant essential oils (EOs) for control of the natural spoilage microflora on ready-to-eat (RTE) lettuce and carrots whilst also considering their impact on organoleptic properties. Initial decontamination effects achieved using EOs were comparable to that observed with chlorine and solution containing oregano recorded a significantly lower initial TVC level than the water treatment on carrots (p< 0.05). No significant differences were found between the EO treatments and chlorine considering gas composition, color, texture and water activity of samples. The sensory panel found EO treatments acceptable for carrots throughout storage, while lettuce washed with the EO solutions were rejected for overall appreciation by Day 7. Correlating microbial and sensory changes with volatile emissions identified 12 volatile quality markers. Oregano might be a suitable decontamination alternative to chlorine for RTE carrots, while the identification of volatile quality markers is a useful complement to sensory and microbiological assessments in the monitoring of organoleptic property changes and shelf-life of fresh vegetables.