# Effect of *Salvia officinalis* essential oil on postharvest decay and quality factors of strawberry

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## Abstract

Postharvest diseases cause considerable losses to harvested fruits and vegetables during transportation and storage. The aim of this study was to evaluate the antifungal potential of the *Salvia officinalis* essential oil (SEO) against postharvest pathogenic fungus (*Botrytis cinerea*) which can reduce the shelf-life of strawberry fruit. The chemical compositions of the plant oil were determined by capillary gas chromatography and mass spectrometry. Antifungal assays were carried out in vitro using potato dextrose agar plates. In in vivo assay strawberry fruits (*Fragaria×ananassa* Duch. 'Selva') were infected artificially by *Botrytis cinerea* spore, and then treated by different concentration of SEO. The rate of disease incidence, weight loss, fruit firmness, total soluble solids, titrable acidity, pH, ascorbic acid of fruits were determined at 0, 3, 6, 9, 12 and 15 days after harvest. Antifungal potential was found for the essential oil analysed. Storage life of strawberry fruits was increased by the use of SEO significantly, by inhibition of fungal infection compared to controls. There was no significant difference between treated fruits and controls in fruit firmness and total soluble solids at all postharvest period. Titrable acidity, pH and ascorbic acid content were significant in some stages. Results confirmed antifungal effect of SEO on *Botrytis cinerea* in in vitro and in vivo assays.