

**Title** Effect of essential oils on postharvest decay and some quality factors of peach (*Prunus Persica*)

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**Citation** Abstracts of 7<sup>th</sup> International Postharvest Symposium 2012 (IPS2012). 25-29 June, 2012. Putra World Trade Centre (PWTC), Kuala Lumpur, Malaysia. 238 pages.

**Keywords** Antifungal activity; essential oils; grey mould

#### **Abstract**

The aim of the study was to determine the antifungal effects of the essential oils against fungal pathogen *Botrytis cinerea* the causal agent of grey mould disease of peach (*Prunus persica* L.) under in vitro and in vivo conditions. Treatments consisted of four essential oils (anise, ammi, ziziphora and Cinnamon) and five concentrations (0, 200, 400, 600 and 800  $\mu\text{L.L}^{-1}$ ). Results of in vitro experiment showed that all of used essential oils at all applied concentrations inhibited grey mould growth. All of these essential oils in concentration 800  $\mu\text{L.L}^{-1}$  were without germination spores of grey mould. The essential oils application significantly decreased weight loss percentage and increased life storage fruits. Also, essential oils positively affected on postharvest quality factors including total soluble solids, titrable acidity, anthocyanin, carbohydrate content and pH value. It was observed that treated fruits with ammi essential oil at concentration 800  $\mu\text{L.L}^{-1}$  had the highest total soluble solids; titrable acidity, anthocyanin, and carbohydrate content and it had the lowest decay and acidity. Thus, these results showed that essential oils have strong impact on postharvest decay and fruit quality of peach.