

**Title** Use of some essential oils as post-harvest botanical fungicides in the control of grey mould of apricot caused *Botrytis cinerea*

**Author** Abbas Hassani, Youbert Ghosta and Zohre Fathi

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### **Abstract**

Post-harvest losses particularly due to fungal invasions, is a major factor in limiting the shelf life of many fruits and vegetable. Chemical control remains the main measure to reduce the incidence of post-harvest diseases. However, in recent years, the study and use of natural compounds such as essential oils are gaining attention as alternative chemical control measures. This study was conducted to evaluate the effects of essential oils from thyme (*Thymus vulgaris*), ajowan (*Carum copticum*), clove (*Eugenia caryophyllata*) and cinnamon (*Cinnamomum zeylanicum*) on control of grey mould in apricot fruits. After the washing sterilization, the fruits were inoculated with fungus suspension containing 10<sup>6</sup> spore/ml. Then the fruits were sprayed with essential oils at concentrations of 0 (control), 200, 400 and 600 ppm, and stored in a cold storage (0±1°C) for 50 days. The essential oil treatment showed significant effects on the number of contaminated fruits and disease severity. The antifungal activity of essential oils was proportional to the concentration used and significant increase in antifungal activity was observed with increase in the oil concentration. In addition, the antifungal effects were oil type-dependent, since cinnamon oil more effective than thyme, ajowan and clove oils, The essential oils tested in this study could be considered as potential alternatives for synthetic fungicides in the control of post-harvest decay of apricot fruits.