

**ANTIFUNGAL ACTIVITY OF SELECTED
MEDICINAL PLANTS AGAINST SOME FUNGAL
SPECIES ON POST HARVEST FRUITS AND
VEGETABLES**

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ABSTRACT

Fungal diseases are a major problem occurred in fruit and vegetable cultivations and on post-harvest fruits. Application of systemic fungicides is the most common practice for commercial control of most of the post-harvest pathogens. Although synthetic fungicides have provided effective control of major postharvest diseases, their application may be harmful to human health and the environment and they become ineffective after prolonged use. There are some natural plants with antifungal activity against various fungal groups. Those natural products can be extracted by using different solvents and different extraction methods. This research study was conducted to determine the antifungal activity of *Azadirachta indica* (Neem), *Myristica fragrans* (Nutmeg) and *Calendula officinalis* Linn. (Marigold) plants extracts against fungal species such as *Colletrotrichum gloeosporioides*, *Fusarium oxysporum*, *Rhizoctonia solani* and *Trichoderma* spp.

The extracts of fruit peel of *M. fragrans*, and leaves of *A. indica* and *C. officinalis*, were obtained from four different solvents as hexane, ethyl acetate, methanol, and distilled water. The antifungal assay was conducted in poisoned food technique under 5000 ppm concentration with three replicates. According to the results of the antifungal assay the best solvents for the extraction of antifungal compounds from *M. fragrans*, *A. indica* and *C. officinalis* were founded as methanol, ethyl acetate and hexane respectively. Also the best antifungal plant against *R. solani*, *C. gloeosporioides* and *Trichoderma* spp was founded as *M. fragrans* and the best antifungal plant against *F. oxysporum* as *A. indica*. The results obtained from this study the fungal species on post-harvest fruits and vegetables would be able to control by using natural plant extracts without using chemicals. This may ensure more healthy post-harvest practices to increase the shelf life of fruits and vegetables by preventing and reducing the fungal activity.

Key words: Antifungal activity, Fruits, Vegetables, Extracts, Fungi, Growth