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بسم الله الرحمن الرحيم

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التوثيق الالكتروني والميكروفيلم

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قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

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بعض الوثائق الأصلية تالفة

Control of Some Phytopathogenic Fungi by Materials from Medicinal Plants

By

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B. Sc. Agric. (Soils & Water, 1996),

Faculty of Agriculture, Fayoum,

Cairo University.

THESIS

Submitted in Partial Fulfilment of the

Requirements for the Degree of

Master of Science

In

Agricultural Science

(Agricultural Microbiology)

Department of Agricultural Microbiology,

Faculty of Agriculture, Fayoum

Cairo University.

2002

Supervision Committee

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Abstract

Four solvents; Water, 50% ethanol/ water (E/W), chloroform and hexane were used for the preparation of extracts from 10 medicinal plants'materials. These extracts were tested for their antimicrobial effect against 4 bacterial strains, 4 fungal strains and 1 yeast strain. Test organisms varied in their susceptibility to different plant extracts. However, the ethanol/water and chloroform extracts were generally more efficient than the other extracts. The inhibitory effect of oil emulsions of Basil and Geranium were tested at the concentration of 1: 30 (oil: water). The results indicated a powerful antifungal effect of these oils. The basil oil showed a relatively higher activity than that of geranium.

The concentration of 20 and 25% of Khilla extract was the MIC against *Phytophthora infestans* and *Fusarium oxysporum* f.sp. *lycopersici*. The concentration of 7.5 and 10% completely stopped spore germination as the MIC for basil and geranium oil emulsions, respectively against the *Fusarium* strain. The 5% concentration of oil emulsions from geranium and basil was the MIC against the *Phytophthora* strain. The MIC of geranium and basil oils' emulsions against *A. flavus* was the concentration of 12.5% in the medium. For the determination of MIC for the geranium oil emulsion against *A. niger*, the concentration of 5% prevented spore germination for both *Aspergillus* strains. The MIC of basil oil emulsion was the concentration of 7.5%.

Pot experiments were carried out to study the effect of geranium and basil oils' emulsions at the concentrations of 1.5, 3 and 5 folds of MIC for controlling tomato wilt disease caused by *Phytophthora infestans* and *Fusarium oxysporum* f.sp. *lycopersici*. The data showed that increasing the concentration of oil emulsion and the increase in dipping period of seedlings' roots before planting resulted in a lower death rate of tomato seedlings. The best effect for geranium oil emulsion was recorded at the concentration of 5 MIC and 10 minutes dipping period. For the basil oil emulsion, the best results were obtained from the treatment of 3MIC with dipping for 10 minutes.

Grain storage experiment was carried out for controlling fungal spoilage of stored maize. The treatment with oil emulsions before storage was the active way to control grain spoilage than the treatment of infected grains with these oils.

Keywords: Medicinal plants, Aromatic plants, Antibacterial, Antifungal, Natural products, Plant disease control, Stored grains protection.

Acknowledgment

First and foremost, all the praises and limitless thanks are to God who gave me the capability to do this research.

I wish to express my deepest gratitude and sincere appreciation to **Prof. Dr. I. M. Ghazi**, Professor of Agricultural Microbiology, Faculty of Agriculture, Fayoum, Cairo University, for his indispensable supervision, suggesting the problem, valuable advice and encouragement till this work has been achieved.

Sincere appreciation and thanks to **Dr. Magda S. Abd-alla**, Associate Professor of Agricultural Microbiology, Faculty of Agriculture, Fayoum, Cairo University, for her guidance and encouragement to perform this study.

A real gratefulness and prayers to his soul, to the man who passed away before seeing this work. To **Dr. E. F. Khalil**, late-Associate Professor of Agricultural Microbiology, Faculty of Agriculture, Fayoum, Cairo University.

I'm very thankful to all members of Agricultural Microbiology Department, for their cooperation.

I'm gratefully acknowledge the Agricultural Microbiology Department, Faculty of Agriculture, Ain Shams University for providing the fungal strains.

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