



**Zagazig University
Faculty of Science
Botany Department**



Studies on Entomopathogenic Fungi Associated with Aphids and Whiteflies Insects on Plants Growing in New Reclaimed Area

A Thesis Submitted

By

Marwa Radwan El -Sadek Mohamed

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ABSTRACT

The aphids and whitefly insects were considered as serious pests on export crops in new reclaimed area and cause high loss in quantity and quality of yield, the chemical control of these pests still the main choice; in order to avoid hazardous of chemical pesticides use on environment, humans and crops exportation; the efforts oriented to determine entomopathogenic fungi associated with these insects in its natural ecosystem to use it as bio control agent.

In this study, 29 fungal isolates were isolated and identified from samples of soil, cadavers of fennel aphid, *Hyadaphis foeniculi* Passerini and whitefly, *Bemisia tabaci* (Genn.) insects, collected from Al-Qassassin, Ismailia governorate. The fungal isolates were screened for chitinolytic activity and revealed that the *Trichoderma asperellum* recorded highest chitinolytic activity followed by *Purpureocillium lilacinum*.

The optimum conditions for chitinolytic, growth rate and biomass activity of tested fungi were studied.

The conidial suspensions and growth medium filtrates were tested against, *H. foeniculi* and *B. tabaci*; the results revealed that accumulative mortality reached to 87.32%. The LC₅₀ and LC₉₀ values indicated promising results about using of tested isolates as biocontrol agent; further studies on the efficacy of the tested isolates under field conditions are still needed.

Ultrastructural studies of the impact of the *T.asperellum* spores suspension on the adult fennel aphid, *H. foeniculi* were investigated in this study.

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