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Title of Thesis : Studies on three entomopathogenic fungi as biocontrol agents against adults of pubescent rose shafer, *Tropinota squalida* Scop.(Coleoptera :Scarabaeidae).
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Abstract

In the present study three entomopathogenic fungi isolates *Beauveria bassiana*, *Metarhizium anisopliae* & *Paecilomyces fumosoroseus* were provided by Insect Pathogens Unit at Plant Protection Research Institute,(ARC) were used as biological agents against adults of *Tropinota squalida* The study deals with four aspects, the first was concerned the mass production of the conidiospores which takes place by growing three fungal isolates on standard potato-Dextrose-Agar-Medium (PDAM) and additional nutritional sources of plant origin such as soy bean powder, crushed grains of corn, wheat, barley, rice, lentil and molasses. Where *Beauveria bassiana*, was exhibited the vigorous growth on PDAM + soybean powder in concentration 100 g / L PDAM , and exhibited good growth on PDAM + crushed rice grains in concentration 100 g / L PDAM. The highest growth of *Metarhizium anisopliae* was on PDAM + crushed wheat grains. Finally, *Paecilomyces fumosoroseus* was exhibited the best growth on PDAM + crushed corn grains. The second aspect was concerned with the study of the efficiency of the fungal isolates against adults of *Tropinota squalida* using two treatments, surface and deep treatment in clay and sandy soil. Where *B. bassiana* caused mortality rates between 23 – 81% after 14 days in all of treatments , LT_{50} was between 9 -18 days, *M. anisopliae* caused mortality rates between 22 – 85 % after 14 days in all of treatment , LT_{50} was between 8 -15 days and *P. fumosoroseus* caused mortality rates between 27 – 72% after 14 days in all of treatments , LT_{50} was between 10 -21days.The third aspect was concerned with the effect of duration storage on spores viability in three laboratory formulations of fungi. Three laboratory formulations of the tested entomopathogenic fungi were prepared in the form of wettable-powder, emulsion, and spores suspension. The decrease of viability was lesser in wettable-powder. The fourth aspect was concerned with the study of effect of two fungicides as anti contaminants on spores viability of the entomopathogenic fungi. Two fungicides i.e. Previcur N'(propamocarb) and Nimrod (bupirimate) were tested each with four concentrations of 0.025 ,0.125, 0.0625, 0.03125 ml / 100 medium . found that Previcur in 0.125 con. was used as anti contaminant in the production of the entomopathogenic fungi under study,.and Nimrod in 0.125 con. was used as anti contaminant in the production of *P. fumosoroseus* only.

**STUDIES ON THREE ENTOMOPATHOGENIC FUNGI AS
BIOCONTROL AGENTS AGAINST ADULTS OF
PUBESCENT ROSE SHAFER, *TROPINOTA SQUALIDA* SCOP.
(COLEOPTERA :SCARABAEIDAE).**

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