

CITRUS PESTS MANAGEMENT THROUGH EDUCATION OF FARMERS IN FIELD SCHOOLS

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Abstract

Since chemical pesticides can be harmful to human health and damaging the environment, FAO in collaboration with the National Institutions started the implementation of the IPM program in the near East region transferring IPM tactics to farmers using the "Farmer Field School" approach. The project is funded by the Italian Government, through the Special Trust Fund for Food Security and Food Safety. The present work in Egypt focus on citrus pests management at Fayoum governorate. As part of the IPM program, entomogenous fungi (*Beauveria bassiana*), Vertemic and mineral oil in comparison with OP compound (Malathion) were evaluated against mealy bugs and citrus red mite on citrus trees during 2005-2006 and 2006-2007 seasons. Data obtained indicated that there were significant difference between Malathion and Mineral oil against mealy bug adults after the second week of the 1st application, while the difference was not significant between Malathion and *B. bassiana*, as well as between KZ-Oil and *B. bassiana*. Reduction percentage of mealy bug adults at one week of the 1st application was 71.37% for Malathion, while it was 60.06% for both *B. bassiana* and mineral Oil, respectively. *B. bassiana* was slightly higher in reducing mealy bug nymphs than Malathion and KZ-Oil. While reduction percentage of mealy bug nymphs for *B. bassiana* treated trees was 72.00%, but it was 68.00% and 65.87% for Malathion and KZ-Oil, respectively.

As for citrus red mites, after the 2nd spray, all tested material significantly reduced red mites individuals on citrus orchard whereas reduction percentages were more than 90% from the 5th to 7th day of the 2nd spray . It could be concluded that microbial insecticides can be used safely to control citrus red mites in citrus trees. In addition, well trained farmers with good understanding of microbial insecticides use could reduce chemical pesticides applications reducing the environmental hazards of conventional insecticides.

- **Key words:** IPM/FFS, FAO, TOT, Microbial Insecticides, *B.t.*, insect fungi

INTRODUCTION

Since chemical pesticides can be harmful to human health and damaging the environment, it was important to start the **GTFS/REM/070/ITA IPM program** with the Farmer Field School. The project is funded by the Italian Government, through the