

P.40 - Susceptibility of Hieroglyphus daganensis to Metarhizium anisopliae - chemical insecticide mixtures

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Systematic use of chemical insecticides is questioned bearing in mind the negative effects on ecosystems and human health and consumer concerns which have accelerated the demand for insecticide dose reduction in plant protection. The objective of the present study is to apply an aqueous formulation of *Metarhizium anisopliae* (Metchnikoff Sorokin) var. *acridum* (5.10conidia/ha) in mixture with a low dose of fenitrothion, (25 g active ingredient/ha) against fifth instar nymphs and young adults of *Hieroglyphus daganensis* (Krauss, 1877). The surface of each experimental plot was 0.25 ha. Grasshopper population density evaluation and sample collection from the field were achieved every three days till the 12th day after the treatment. Mortality rate of the insects on the first day after application was 0 % in the fungus plots, 42 % for the mixture of both active ingredients and 38 % for the fenitrothion only, ($p < 0.01$ %). The density of the grasshopper population decreased in the treated plots with fenitrothion and with the mixture of ingredients, ($p < 0.01$ %). There was a significant difference between population densities of the grasshoppers in the treated plots, ($p < 0.01$ %). Efficacy of the treatment with *M. anisopliae*-fenitrothion mixture was different with the other treatments, ($p < 0.01$ %). This study indicates the possibilities of applying reduced chemical insecticide doses with *M. anisopliae* as a new strategy for grasshopper control and environment preservation.