

STUDY OF TWO INSECTICIDES (DIAZINON AND CHLORPYRIFOS) EFFECTS ON CHOLINESTERASE ENZYME IN SPRAYING WORKERS IN KARAJ PROVINCE

V. Derakhsh Ahmadi¹, M. Shayeghi²; M. S. Sabouri³

1- Department in Agricultural Entomology, Islamic Azad University, Garmsar, Iran.

2- Tehran University of Medical Sciences, Medical Entomology and Vector Control, Tehran, Iran.

3- Department in Agricultural Entomology, Islamic Azad University, Garmsar, Iran.

Vahid Derakhsh Ahmadi E-mail: versasanaatsabz@yahoo.com.

INTRODUCTION

Methods for destroying pests is use of variety of pesticides that have a quick effect in a short period of time, however these pesticides have advantages and disadvantages. Farmers because those consumers tend to buy healthy and blight fruits, to achieve a high quality product, proceed to the frequent and inappropriate time spraying. Ever, the effects of chloroperifosir insecticide on AChE activity in our country is not checked, so in the study of the effects of OP pesticides on decreasing the AChE of labour sprayer were investigated to provide recommendations sanctity it can also be carried out through the IPM pest management programs can help. Agriculture is an important feature of the Karaj, so that fruit orchards constitute the bulk of the lands around it.

MATERIALS AND METHODS:

This study was done on 31 people in the city of Karaj, who introduced themselves as an active person in sprayed areas (after consent). Measuring acetyl-cholinesterase (AChE) activity using the Bond Levy (Loviband): in this method Changes in blood PH is measured. The enzyme acetyl-cholinesterase in the blood is due to the degradation of acetylcholine to choline and acetic acid, and changes the environment PH, PH-induced changes in the amount of cholinesterase is equivalent. In band Levi method the cholinesterase activity in the blood ratio of normal activity and is measured as the percentage and with regard to amount that obtained can be commented on.

All sprayer workers in the city of Karaj (31 cases), and 5 cases of people who have no exposure at 4 months before with phosphate pesticides did as well as control were selected and on 2 consecutive days in the morning before spraying, at pm, after spraying the test were. On the first day a questionnaire for each worker sprayer was adjusted. For each person prepare a reaction tube with door, and after numbering tubes, the blood was taken. In each reaction tube, pour 0.5 ml of color reagent. For sampling from people, must first wash your hands with regular detergent and then disinfected with alcohol after dry out. In this study, the SPSS software used for statistical studies.

RESULTS AND DISCUSSION

T-test (means comparison) in confidence level ($\alpha=0.05$) 95% indicated that there is a significant difference between the mean of cholinesterase activity in the blood of the workers spraying by Diazinon toxin (on the second day after contact) and witness group ($P\text{-value}<0.001$). T-test (means comparison) in confidence level 95% ($\alpha=0.05$) indicated that there is a significant difference between cholinesterase activity in the blood of workers spraying by Diazinon toxin (on the second day after contact) and the witness group ($P\text{-value}<0.001$). T-test (means comparison) in confidence level 95% ($\alpha=0.05$) indicated that there is a significant difference between cholinesterase activity mean in the blood of the workers spraying by Chlorpyrifos toxin (on the first day after contact) and the witness group ($P\text{-value}= 0.005$). T-test (means

comparison) in confidence level 95% ($\alpha=0.05$) indicated that there is a significant difference between cholinesterase activity mean in the blood of the workers spraying by Chlorpyrifos toxin (on the second day after contact) and the witness group (P-value=0.002)

Keywords: diazinon, chlorpyrifos, cholinesterase enzyme, spraying.

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