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### ABSTRACT

The present study had two categories :

1-Toxicological studies on some field populations to determine their sensitivity against OP, pyrethroides and IGR's insecticides. and

2-Biochemical studies on different tissues of the tested populations

\* The data resulted in toxicological studies revealed that:-

- All field strains were susceptible to IGR's and resistant to OP and pyrethroids  
- A tendency toward increase in tolerance rates was recorded in Sharkia strain, while Behera strain showed the least tolerance rate values.

\* The data resulted in biochemical studies revealed that:-

- Most the tested field strains showed high level of esterases than L-strain.  
- All F-strains had high level of AcP and low level of AlkP than L-strain  
- All field strains had high ATPase activity than L-strain.  
- Field strains collected before spraying had high level of chitinase activity than these collected after spraying, especially in Dakahlia and Sharkia strains  
- After spraying there was a significant increase in GST's activity in F-strains especially in Behera, Sharkia and Dakahlia Governorates

\* The data resulted in PAGE electrophoresis revealed that :-

1- Esterase isozymes :

- Seven esterase bands (E1-E7) were detected by PAGE in L-strain and field strains collected before and after spraying season.

- Beni Swief and Behera Governorates before spraying season had great numbers of esterase isozymes bands, while Sharkia strains had less number of bands.

2- Glycoproteins:

- Three P-gp bands were detected only from L-strain before spraying. After spraying, the three P-gp bands were detected also in Beni Swief, Sharkia and Dakahlia strains.

3- Lipoproteins:

- No lipoprotein bands were detected either from L- or F-strains collected before spraying. After spraying, three lipoprotein bands were detected just in Beni Swief, Sharkia and Dakahlia strains.

*Ahmed Aboul Enein*

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