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SUMMARY

The present investigation was conducted to study alternative methods more safer and effective for controlling some insects which attack cotton plants in Egypt .The results obtained could be summarized as follows :

1-Effect of certain compounds against sucking insects :

Azodrin with the tested two rates gave the highest percent reduction in both initial kill and residual activity against Thrips when compared with the other tested compounds .Mesrona oil and Evisect were the least effective compounds in this respect .

Polo seems to be the most effective compound among the tested compounds against mature and immature stages of whitefly .

Evisect ,Natrilo and CM 006 gave satisfactory effect against immature stage of *B.tabaci* .Polo ,Evisect, Hopa oil ,Natrilo , Naturals and Biofly had insignificant differences after 2 days of spray against adult stage .

Azodrin gave an excellent control for Jassid recording 93.61%reduction as initial kill and 83.80% reduction as residual activity .The rest compounds induced a weak effect in this respect .

Azodrin was the only compound which could be used in controlling aphids among the tested compounds .

2-Toxicity of chlorfluazuron or flufenoxuron when mixed with certain oils against *S.littoralis*:

The tested oil increased the toxicity of chlorfluazuron except Cotton seed oil and KZ-oil at lower rate after 0 day of spray , whereas ,the tested oil did not affect the efficiency of chlofluazuron at (3-12) day.

The tested oil did not improve the toxicity of flufenoxuron in initial or residual activity against *S.littoralis*.

3-Comparative initial and residual activity of certain bioinsecticides and Hopa oil against *S.littoralis*:

A weak toxic effect was noticed after 2 days of feeding on treated leaves with bioinsecticides or oils against *S.littoralis* . The mortality was increased with increasing feeding period for another 3 days on untreated leaves .A negligible mortality was observed after 2 days of feeding on treated leaves ,whereas it increased moderately when extending feeding period to another 3 days on untreated leaves at (5-15 days).

4-Comparative initial and residual activity of CM 006 against *S.littoralis*:

Four concentrations of CM 006 were tested against 4th instar larvae of *S.littoralis* at 3 tested intervals .A week percent mortality was noticed after feeding on treated leaves for 48 hrs .The mortality was increased by increasing feeding

period to 5 days .A satisfactory results was observed at 5-15 days .

5-Latent effect of IGR on *S.littoralis*:

The changes in biology and biotic potential of *S.littoralis* following feeding different larval instars on IGR treated cotton leaves for 48 hrs and then on untreated leaves till pupation were studied .The results obtained show the following :-

5-1-Latent toxicity to development stages:

Feeding different larval instars on IGR treated leaves induced chronic toxicity to larvae and pupae .Hundred percent was achieved for all tested compounds at 1st period except Dimilin and Memik against 4th instar larvae and Cascade against 5th instar larvae .At 2nd and 3rd period Atabron and Consult induced 100% mortality against the three tested instars.

Sir and Cascade increased pupal mortality significantly against 4th instar larvae in the tested periods .Memik ,Consult and Atabron gave the highest reduction in pupal mortality resulting of treated 5th instar larvae .Atabron , Consult and Sir were the most effective against 6th instar larvae in this respect .

5.285% of the control comparing with 2.192% in susceptible strain.

A reduction, in beta-esterase activity in El-Menofia strain (-89.316 and -51.922 % of the control and El-Karbia strain (-31.652 and -2.100% of the control) lower than the susceptible strain (-14.462 and 29.039 % of the control) hexaflumuron and chlorfluazuron.

IGR's (hexaflumuron and chlorfluazuron) caused a significant reduction in the activities of acid phosphatase. The highest percentage of reduction was -82.632% in El-Menofia strain treated with hexaflumuron.

7-Effect on cotton bollworm infestation :-

Kendo and Curacron induced the highest percent reduction in both percent infestation or the number of bollworm, whereas Vertemic exhibited the least effect in this respect. The rest bioinsecticides came in between the above two groups.