VI-SUMMARY

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The present studies covered the following points:

1. The efficacy of various natural products and insecticides against *B. tabaci*(Genn) adults of laboratory and field strains form different Governorates.
2. The efficacy of various natural products and insecticides against *Spodoptera littoralis* (Boisd) larvae laboratory and field strains form different Governorates.
3. The efficacy of various natural products and insecticides against the nymphal instar as well as the adult *Aphis gossppii* (Glov) of laboratory and field strains from different Governorates.

I - *Bemisia tabaci:*

This study has indicated that the response of different strains of the whitefly *B. tabaci,* collected from different Governorates of Egypt, during 1995 and 1996 seasons, to the tested insecticides varied from one insecticide or natural products to another according to the history of insecticide application in each Governorate, to cotton crop .

1. All field strains of Beni Suef, Kalubia Behera and Dakahlia Governorates exhibited various levels of resistance to natural product in the following ascending order to azadirachtin (0.3 – 1.6)fold < abamectin (0.5-8) fold < $CaPL_2$ (0.8- 6.5) fold < Misrona (0.6 – 12.7) < super royal (0.7 – 13.5) fold < Kz [4.3 – 188.9] fold < CaPL1 (2.2 – 188.9) fold.
2. The same trend was observed with (OP) dimethoate (0.5 – 6.3) fold < primiphos methlyl (0.5 – 6.5) fold < profenofos [0.5-12.6] fold < chloropyrifos methyl [3.2 – 7.7] fold < malathion [6.4 – 54.7] fold. In all tested strains tested.

3. *Bemisia tabaci* strains showed low resistance levels with the carbamates methomyl and pirimicarb, which were almost similar in their efficiency but pirimicarb was lesser (0.03 – 7 fold) than methomyl (0.5 – 5 fold). These two carbamates were slightly better against *B. tabaci*adult than the organophosphates.
4. It is clear that the levels of pyrethroides resistance to all strain were very toxic e.g. the etofenprox (0.2 – 1.8) and cypermethrin (0.4, 2.3 fold).
5. The new product with novel mode of action, diafenthiuron was considerably exhibited high tolerance to resistance (1.2-20.6 fold).
6. The imidacloprid showed high toxic (0.3-3.8 fold).
7. The levels of resistance to all tested compounds in 1995 season.

II- *Spodoptera littoralis* :

This study has indicated that the response of different strains of cotton leaf worm, collected from different Governorates of Egypt (two governorate from upper Egypt and three ones from lower Egypt) during 1995 and 1996 seasons to natural products and insecticides tested various according to the history of insecticide application in cotton crop.

1. All field strains of (Beni Suef- Fayom, Kalubia, Behera and Dakahlia governorates) exhibited very toxic to the natural products, abamectin (0.4- 2.98 fold) in two seasons the azadirachtin ranged between (0.27-2.6 fold) in the two tested season. But mineral oil Kz, Misrona, superroyal, CaPL1, CaPL2, don't effect in field strain and laboratory strain.
2. The new product lufenuron and hexaflumuron was considerably more efficient than all other tested compounds in both years. This

indicated low resistance levels to lufenuron (0.51-2.07 fold) and hexaflumuron (0.03 to 2.11 fold).

3. *Spodoptera littoralis* showed high resistance levels to carbamates than natural products and Insect Growth Regulator; methomyl.
4. All field strains of Beni Suef, Fayom, Kalubia, Behera, and Dakahalia exhibited high level of resistance to pyrethroides, alpha cypermthrin and fenvalerate ranging between 63-48 to 295.2 fold and (52.03 to 82.62 fold), respectively.
5. The organophsphates chlorpyriofos, cyanophos and profenofos were ranged between 2.29 to 49.81 fold, for chloropyriofos, and 2.92 to 17.4 fold for the OP cyanophos and 3.96 to 30.84 fold for profenofos.
6. The mixed compound of the insecticide and Insect Growth Regulators chlorfluazuron + profenofos known Aimx, was considerably more resistance in all tested strains. This is indicated by high resistance levels which ranged between 15.77 to 297.36fold.

III- *Aphis gossypii* :

This study has discussed the response of different strains *of aphis gossypii,* collected from different Governorates of Egypt, during 1995 and 1996 seasons, to the insecticides or natural products. Results obtained indicated the following results.

1. All field strains of Beni Suef, Kalubia, Behera and Dakahlia governorate exhibited very toxic with azadirachtin which ranged between 0.01 to 0.7 fold but abamectin was of low level of resistance (1.9 to 6.7 fold) with exception Behera in 1995 (0.2 fold)
2. The pyrethroides compounds showed high levels of resistance, as cyhalothrin ranging between 13.6 to 244 fold except Behera strain (0.4 fold), cypermethrin vary between susceptibility to resistance and

ranging between 3.1 to 452.6 fold except Behera strain (0.6 fold). Etofenprox was high resistante to the strain of this Governorate which ranged between (446 to 634.9 fold).

3. The same behaviour was also noticed with the organophosphates compounds Malathion was mediatly level of resistance (1.3 to 18.8 fold), profenofos of low resistance (1.2 to 5.9 fold) pirimiphos methyl was very toxic (0.5 to 0.7) and other strains has low resistance (2.3 to 6.7) but dimethoate more resistance Beni Suef strain was 5.5 fold to dimethoate 10 fold.
4. *Aphis gossypii* strains showed low resistance level with carbamates, methomyl (1 to 1.8 fold) but pirmicarb was very toxic.
5. The new product with, diafenthiuron was considerably mediatly effect (3.1 to 13.3 fold).
6. Kalubia and Dakahlia strains were the most resistant strains. Behera and Beni suef strains showed lower resistance level as compared with Dakahlia strain and Kalubia strains.