

# SUMMARY

## VI- SUMMARY

Experiments were conducted to study the side effects of insecticide residues on germination, plant growth, flowering and nodulation of both broad bean and cowpea.

Clay soil was used in all experiments. Insecticides tested were decamethrin, cypermethrin, fenvalerate, triazophos, dimethoate, profenfos, mephosfolan, disulfoton, lindane, endrin, DDT and methomyl.

These insecticides were used at several concentrations ( 5, 10, 15, 20, 40, 50, 60, 80 & 100 ppm ), as active ingredients.

The soil was irrigated by water to 75 % of its field capacity. The percentage of germination was recorded after 10 days. The side effect of these residues on plant growth was recorded.

The number of flowers and number of nodules in treated and untreated pots were also estimated.

Results indicated that these residues affected the germination of both broad bean and cowpea plants at concentrations more than 30 ppm at all cases. Some of the insecticides tested decreased the percentage of germination also at low concentrations.

All insecticides tested decreased the length of root at concentrations more than 20 ppm. Some of them reduced the

length of stem and some had nearly no effect\* specially at low concentrations.

The phytotoxic symptoms which appeared in most cases were dwarfing, swollen roots, twisted leaves, discoloration and the burnet edges of the leaflets.

Most of the insecticides decreased the number of nodules specially at concentration more than 10 ppm.

The tested insecticides decreased also the number of flowers per plant at all concentrations.

Lindane and endrin were detected in broad bean plants. Residues from both the insecticides tested were found in all parts of the plant. They were concentrated in roots more than in the other parts. Lindane was distributed in all parts of the plant but it was concentrated at upper leaflets, while endrin was concentrated in the lower leaflets.