I- INTRODUCTION

The last three decades witnessed the introduction and extensive use of synthetic organic pesticides. This extensive addition of biologically active chemicals to the environment, soon raised the problem of persistance and biodegradability of these chemicals in the ecosystem. It became clear that many of these compounds persist for significant periods in the environment. Even the less persistant types of products are still questionable as to the degree of their persistance, the fate of their degradation products in the ecosystem and their side effects on different aspects of plant physiology.

This problem appear to be growing by passage of time through the contineous increase in the production and application of pesticides, for while in 1950 the world production of pesticides amounted to a total of 7 million tons, in 1970 it was 63 million tons, for 1985 it is expected to reach 250 million tons (Klein 1976).

The persistance of organochlorine pesticides has been repeatedly established by many authors. The effect of insecticidal treatment on germination was also reported on by many workers, Abdel-Gawaad and Co-workers (1972a) indicated that different crops differ in their response to an insecticide. The effect of the presence of an insecticide varied from retardation of germination to reduction in percentage germination according to the type

of crop and the type of insecticide, and numerous cases where no effect on time or percentage of germination were also reported.

Phytotoxic effects of organochlorines when incorporated with soil was reported as early as 1948 by Wallace. Organophosphates were also found to effect the growth of some vegetables (Lichtenstein et al. 1962), again the effect was not of a general nature, but was specific to certain crop-insecticide combinations.

The work reported in this Thesis was conducted in order to find out the effects of thirteen different insecticides on the germination of two legumes, i. e. broad beans and cowpea. The effect of these insecticides on root and stem growth, flowering and nodulation in the two legumes was also studied.