INTRODUCTION

Pesticides occupy a unique position among the many hazardous chemicals that man and animals encounter daily. Pesticides are intentionally introduced into the environment to enhance agricultural production, to reduce pest damage on crops and to control disease vectors.

The greatly increased uses of pesticides in agriculture beside their vital role in public health, have introduced a serious and novel hazards to human and their environment.

Strawberry is one of the most widely grown vegetable crops in the world. In Egypt the planted area of strawberry are estimated by 4000 feddan , 1800 feddan planted in Kalubia Governorate.

Tomato crop plays a very useful role in various industries and nutritional aspects for humans. In Egypt, this crop is going to be one of the economic vegetable crops and the cultivated area is increasing from year to another. The rapid increase in the acreage is mostly related to its high price and good yield in comparison with other crops as well as it is considered an export crop.

In this respect, the protection of strawberry and tomato crops from the attacking of pests is considered as a key factor for the mass production of fruits. However there are a wide range of pests including insects, fungi, bacteria, virus and acaros. Such pests are affecting significantly the quantity and quality of strawberry and tomato production. To protect strawberry and tomato crops from target pests it was followed different techniques of pest control, i.e. agricultural, legal, mechanical and chemical among others. As chemical control technique, pesticides have been used in a wide variation of agricultural application in strawberry and tomato crops to control insects.

Pesticides are, however still used in a large scale through the world, especially in the developing countries as a major mean for pest management. **(Aloub1997).**

Abamectin is an insecticide and acaricide used for controlling motile stage of mites, leaf miners, coloradobedles, etc. on many vegetables and fruits crop.

Several methods have been described for determination of abamectin. **(Maynard,*et al* 1989)** determined abamactin in citrus fruits by (HPLC). Also **(Alaa *et al*., 2007)** determined abamactin residue on Saudi Arabia dates. While the triazole fungicide diniconazole is recommended for controlling powdery mildew and berry rot according to

pest control program, **(Ministry of Agriculture and Land Reclamation, Egypt, 2001)**. **(Mohamed and Eissa 2007)**, determined diniconazole residues in field-sprayed and house hold processed cucumber and pepper fruits. **(Hegazy *et al*., 1999)** studied the persistence of diniconazole on and in grape leaves. Methomyl has been recommended to control many pests of strawberry and tomato, these pests include Egyptian cotton leaf warm, Red pumpkin bettle, squash bettle and others are attacked strawberry and tomato. **(Ahmed and Ismail 1995)** determined the residues of methomyl in strawberry and tomato. Also **(EL-Sayed *et al*., 1977)** studied the residue of methomyl on some vegetables.

Hence, the present study aimed to investigate the following points:

1. Persistence of abamactin, diniconazole and methomyl residue on and in strawberry and tomato fruits in open field.
2. Determine the dissipation rate, half-life values (RL_{50}) and pre-harvest interval (PHI) for the tested pesticide.
3. Investigate the impact of some environmental factor i.e., sun light, ultra-violet light and different degrees of temperature on the persistence of tested pesticides.
4. Identification of the photo degradation products of diniconazole after exposure to U.V using GC-MS.