

I - INTRODUCTION

Cucumber (Cucumis sativus L.) is one of the important vegetable crops that belong to the cucurbits crops, family (Cucurbitaceae). It's grown in Egypt either in open field as a summer crop or under plastic houses during winter season. The number of plastic houses in Egypt that cultivated with cucumber are about 11000 (*) with total yield of about 66000 tons with an average yield of 6.0 tons per one greenhouse (540m²). However, the cultivated area of the open field is about 43704 feddans with total yield of 328228 tons. with an average yield of 7.5 tons per feddan (*) according to the statistics (1997).

Cucumber crop faces several hazards through the infections by serious fungus diseases during its life. Fusarium oxysporum var. Cucumerinum and root knot nematode (Meloidogyne incognita serita) are very dangerous diseases due to their management difficulties .

There are several ways to control fusarium wilt and nematode, non of them proved to be effective, except, the chemical treatment with its hazardous impact on both environment and life being . It is well known that fungicides negatively influence biological balances of soil micro - organisms.

Furthermore, there is no commercial cultivars or hybrids of cucumber resistant to nematode or fusarium that could be used for controlling and management of nematode or fusarium.

Therefore, the only possible approach to overcome such diseases is using grafting as an active and clean method i.e, grafting commercial susceptible cultivars of cucumber on resistant rootstocks of wild or domesticated species of cucurbits to protect the scion from the attacked diseases .

(*) Department of Agriculture, economic and statistics, Ministry of Agriculture, A. R. E.

It is worthy to mention herein, that grafting vegetables was first launched in Japan and Korea in the late 1920's by grafting watermelons on gourd rootstocks. After the first trial, the cultivated area of grafted vegetables, as well as the kinds of vegetables being grafted, has been consistently increased .

At present, most of the watermelons (Citrullus lanatus), oriental melons (Cucumis melo var. Makuwa Makina), greenhouse cucumbers (Cucumis sativus L.) and several solanaceous crops, in Korea and Japan are grafted before being transplanted to the open field or greenhouse. However, it is highly popular in Korea, Japan and some Asian and European countries where land use is very intensive and the farming area is small.

So, the aim of this trial is to throw some light on the effect of grafting cucumber cv. passandra which is a susceptible cultivar to fusarium wilt disease and nematode on some different rootstocks that belong to figleaf gourd, bottle gourd, Pumpkin and squash crops on plant growth, yield, leaf chemical composition and fruit quality.

The effect of grafting process on the susceptibility to fusarium wilt and nematode is also considered as another goal of this work, where percent of infection, disease severity and losses were determined in eleven cucurbitaceous rootstocks. From these rootstocks, four of them that showed some degree of resistance were chosen to elucidate the effect of grafting cv. Passandra F₁ hybrid which is a susceptible cucumber cultivar on the different used rootstocks.