

INTRODUCTION

Sunflower, Helianthus annuus L. is one of the important oil crops in the world, as its seeds contain a high percentage of oil which ranges from 30-50% and reaches 54% in some Russian varieties (Shabana and Abou-Khadra, 1976).

As a field crop, it was introduced to Egypt in the forties of this century. Sunflower, being a summer crop and fits into the rotation of the crops was thus desired as a quick cash crop, and for being relatively inexpensive for growing and also for extracting its oil.

The area cultivated with sunflower in Egypt increased year after year reaching 20126 feddans (Anon., Ministry of Agriculture, 1976). However, both the area under cultivation and the gross yield showed a sharp decline between the years 1971-1975 which may be attributed to many factors mainly; disease effect, lack of enough bee-hives, shortage of mechanical equipments and seed crushers (El-Zarka, 1976). Many serious diseases attack sunflower plants and cause great reduction in the crop, especially those which attack the roots (El-Zarka, 1976, and Maklad, 1978).

This investigation is mainly dealing with the isolation of the causals of root and seedling diseases of sunflower plants grown in different localities of A.R.E. and their control.

Pathological and physiological studies on the isolated fungi with special reference to Macrophomina phaseolina (Tassi.) Goid. and Fusarium oxysporum Schlecht were carried out in the laboratory and greenhouse of the Institute of Plant Pathology, Agric. Research Centre, Giza, A.R.E. and the field experiments were carried out in a heavily infested with M. phaseolina in the farm of the Faculty of Agric., Assiut Univ. during seasons 1978 and 1979.