I- INTRODUCTION

Land reclamation projects in Eastern and Western deserts in Egypt occupy a very important sector in the programmes of Agricultural development for increasing the cultivated area. Beside, irrigation in these areas depends mainly on underground water which sometimes includes high amounts of salts. Therefore, for the success of these projects, it is very important to study water quality through investigating the chemical composition of the water resources, as well as fruit species and rootstocks that can tolerate salinity.

According to the census of 1987* in Egypt, the area planted with citrus reached 269538 feddans from 616174 feddans of the total fruit area. Due to the large area of citrus it is considered the most important fruit crop. Moreover, a considerable portion of citrus acreage is in the newly reclaimed soils i.e. El-Tahreer province, Mariout Sector and other areas on both sides of Nile valley.

In addition, salinity has a great role in the absorption phenomenon of plant roots which should be reflected on the behaviour of any particular crop with respect to physiological and metabolic activities.

In Egypt, sour orange is the most preferable rootstock for citrus in spite of its susceptibility to Tristeza virus and burrowing nematode as well as its limited tolerance to salinity. Thus, a trial was carried out to find other alternative rootstocks which may have ability to tolerate salinity.

Accordingly, the present investigation was conducted to study the effect of salinity and S A R levels on growth of young Washington navel orange plants budded on some different citrus rootstocks i.e. Rangpur lime, Cleopatra mandarin and Poorman orange beside the common used sour orange stock.

Meanwhile, a general evaluation for citrus rootstocks was carried out that may contribute to the selection of the most tolerant rootstock for high level of salinity and S A R under either full sun light or partial shade conditions.

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* According to statistics of the Ministry of Agriculture, Egypt, 1987 (Under publication)”