

I- INTRODUCTION

Onion , Allium cepa L. , is one of the most important vegetable crops in the world . It is considered as a major crop in Egypt . It is also an exportable commodity which added about nine million Egyptian pounds in 1973 to the national exchequer of Egypt . The highest production of the total yield could be found in U.S.A , followed by Japan and Spain . Egypt was considered the fourth country , but now Egypt lost this rank because the cultivated area dropped from 24759 to 8996 feddan with total annual production of about 216548 and 85636 tons in 1973 and 1984 , respectively .

Most of the area devoted for export is located in Middle and Upper Egypt . The great reduction in cultivated area and consequently in onion production is due to the contamination of the soil in Middle and Upper Egypt (the main production area for export) by the fungus Sclerotium cepivorum , Berk, the causal organism of the white rot disease , over which no effective chemical or biological control could be achieved up till now .

Production of onion bulb in Delta may be considered as one of the means of escaping from white rot disease since this area is considered clean from this fungus . In Delta many strains from Behairy onion are grown . All mature bulbs produced from these strains are used only for local marketing . Such bulbs cannot be used for export because they lack in uniformity either in the colour or shape . Bulbs of

Giza 20 , a new cultivar for Middle Egypt and Delta , show good uniformity in colour and shape and may be considered as an exportable cultivar . In Egypt , yield of onion is considered relatively low , especially if we take the prevailing ideal environmental conditions for onion production in consideration , adequate fertilization with macro and micro elements , utilization of some growth regulators as well as using of good cultivars are the most important agronomic practices for boosting the yield of many vegetable crops .

Therefore , the aim of this investigation was to evaluate some onion cultivars under the conditions of Kalubia Province . In addition, the responsibility of Giza 20 cultivar to N , P , K , Cu , Zn and Mn fertilization as well as to GA_3 , NAA , Alar and Etherel foliar spray were studied . Finally, the residual effect of such growth regulators used on the subsequent seed yield capacity was also taken in consideration .