

INTRODUCTION

Tomato (Lycopersicon esculentum Mill) is one of the most important vegetable crops grown in Egypt. The total * area devoted to the tomato crop during 1996 reached 412103 feddans as a total area and 167544 feddans for the summer period produced approximately 5995411 and 2313759 tons with an average of 14.6 and 13.8 tons /feddan for total area and summer period, respectively. With respect to the total area and that devoted to the summer period to the tomato crop in Qalyobia governorate during 1996, it was 6925 and 6590 feddans produced approximately 117673 and 112931 tons with an average of 15.14 and 17.14 tons/feddan for the total area and summer period area, respectively.

The problem that faced a great number of developing countries is the production of sufficient crops to meet the need for feeding the over growing populations.

Increasing crop production can be achieved through two ways: The first is horizontal through increasing the cultivated area and the second is vertical through increasing the yield per unit area.

Magnitude losses in crop production occur annually in our nation because of soil salinity, or by using saline water for long time during growing seasons. In this respect agricultural expansion need great amount of suitable irrigation water which is already not sufficient to meet all the expected demand. In this connection, the first

• Cited from the Economic and Statistics Dep. Ministry of Agric. Egypt.

aim of this work is to study the possibility of minimizing or overcoming the harmful effects on tomato growth and yield that occur as a result of using saline water in irrigation by spraying tomato plants with some chemical materials, which are expected to be effective in this respect.

It is worth mentioning that the re-use of drainage water in irrigation beside good quality water (i.e. Nile water) and forerunner cultivars that tolerate the salinity stress is one of the suggested solutions for this problem, hence, this is the second aim in this study.