1. INTRODUCTION

The increment of population rate more than that of the productivity of cultivated land, besides creeping drought everywhere due to the atmospheric changes aside of suitability, oblige scientist to look for other ways to save reason of life .

Marginal soil, other sources of irrigation water, soil-water management and plant adaptation are effective ways, to prevent disaster to be happened or to minimize its effect .

In Egypt, the narrow belt of old land along the two banks of the Nile River and its Delta, the insufficient water supply through the River, as well as, the high population density make researches focus mind to the rehabilitation of the previous conditions, and to use the potential sources of water as, underground, drainage, sanitary drainage, and sea waters, as well as, other kinds of potential agricultural land .

Cotton plant is a fiber and oil crop which has a tolerant ability to give a fairly good yield, under many adverse circumstances .

Taking in mind its economic importance and water regime, the current investigation has two aims, the first one is to use diluted sea water to irrigate cotton plant, and the second one is to study the effect of irrigation with saline water at the different stages of cotton growth whatever, on growth character, chemical component and fibre cotton yield .