1. INTRODUCTION

Peanut is considered to be one of the most important edible oil crops. It is also one of the leguminous crops which thrive in the reclaimed sandy soils as it has a good ability for improving the physical structure of such soil types.

The most suitable areas for growing peanut are located at the West to Delta (S.Tahrir and W.Nobaria), East to Delta (Sharkia and Ismailia Governorates) and Middle Egypt (Giza) where locates about 80-85% of the total area cultivated with peanut.

Due to the high nutritive value of peanut seeds for human and the produced cake as well as the green leafy hay for livestock, in addition to the importance of seed oil for industrial purposes, research activities have been intensified in Egypt as well as all over the world in order to increase peanut productivity.

There are several types of wild and cultivated kinds of peanut (groundnut, goober, monkeynut , earthnut, pinda, pinder and monillanut), *Arachis hypogaea*.

The information on proper nutrient requirements, especially nitrogen, calcium and inoculation for growing peanut in such newly reclaimed sandy soils is lacking. These soil are poor in their basic cations

status and possess, rather low cation exchange capacity. Peanut like other legumes, is a base loving oil seed crop and its demand for basic nutrient elements, like calcium, magnesium and potassium is substantial.

The increase of peanut production in order to cover the local consumption and exportain demands could be achieved by introducing more productive varieties and improving the culture practices and managements by chosing the proper rate of fertilization and gypsum required in addition to other agronomic factors.

Therefore, the objective of the present investigation was to study the effect of inoculation with Rhizobium sp., calcium application either to the soil as gypsum or to upper ground plant parts as chelated Ca spray and nitrogen fertilization on groundnut cultivar (Giza 4) under sprinkler irrigation on newly reclaimed sand soil.