

I- INTRODUCTION

Taro (*Colocasia esculenta*, L.) is monocotyledonous plant belonging to the family Araceae. It is considered as one of the most important vegetable crops grown in Egypt due to its high nutritional value . It is mainly used for it's corms, which are rich in starch, proteins, minerals and vitamins, than potatoes and sweet potatoes (Moursi ,1955). Each 100 g fresh weight of corms and cormels contains about 63-85% moisture, 13-29% carbohydrates , 1.4-3% protein, 28 mg calcium and 61 mg phosphorus. In 1997, the total area devoted to the taro crop was 5827 feddan with total productivity of 81701 ton with an average yield of 14.02 ton per feddan according to **Agricultural Economic and statistics of Egypt, Ministry of Agriculture, (1998)**. Taro plants require ample of moisture and fertilizers throughout its growing season . Its large leaves are extensive transpiring surfaces through which large quantities of water are transpired daily . Taro does not require ample of moisture only but demands excess amounts of fertilizers, due to its long duration in the soil from planting to harvesting . Irrigation is one of the important factors which affect greatly growth and yield of taro . However, irrigation water available in Egypt is the main limiting factor for the extension of agriculture . Therefore, this trail was conducted to study the effect of NPK fertilization level on growth and yield of taro and to determine the optimum quantity of water and irrigation periods which give the highest yield of taro corms with good quality .