

INTRODUCTION

The mango (*Mangifera indica*, L.) is one of the oldest widely cultivated fruits in the subtropical and semitropical regions. It is also one of the popular tropical fruits cultivated in both the world and Arab Republic of Egypt.

Mango is botanically belonging to family Anacardiaceae. Its trees are evergreen and growing well with good production under the native tropical territories, whereas soils are well drained.

Mango is regard in Egypt as one of the major local fruit crops and approximately could be considered the third fruit crop after citrus and grapes. It is worthy to be mentioned that mango introduced to Egypt in 1825 year but since this date it spread steadily. The acreage planted area with mango reached about 65417 Feddans (according to the census of the Ministry of Agriculture in 1997). However, because mango fruits are considered as one of the most popular fruits for the Egyptian consumer due to its good flavour, delicious taste, nutritive value and other fruit attractive features. It is in need to be of wide spreading in ARE particularly in the new reclaimed areas. Successful plantation is an equation of technical know how, favourable environmental, soil and water requirements.

It is well known that mineral fertilization is very essential especially after the construction of the High Dam in 1964, the total suspended matter of the River Nile was decreased by 98% which consisted of the most essential nutrient elements (Helal and Rasheed, 1976). This sharp decrease deprived the soil of Egypt from about 91% of the annual supply

of nature source of most mineral elements, (Faizy, 1980). Accordingly, application of fertilizers is essential to replenish such soil with the sufficient amounts of plant nutrients. In addition, micro-nutrients such as Zn are perform essential function in vital processes. A lack of micro-nutrient is responsible for some plant diseases and often causes crops to perish. Application of appropriate micro-nutrients not only prevents these disease, but also ensures higher yields of better quality crops.

Therefore, the present study was carried out to investigate the effect of rate and application method for two important elements i.e., phosphorus and zinc regarding the response of both vegetative and nutritional status of 6 month old mango seedlings. Moreover, absorption, translocation and utilization of zinc through foliar application of the isotop Zn-65 were also included.

With the main purpose of enhancing and improving their growth to attain the suitable size for carrying out grafting from one hand and to shorten the time required for producing a standard transplants for selling from the other which will be reflected beneficially on mango merserymen and increasing their income.