INTRODUCTION

Both improving productivity of the cultivated land and putting more land under agricultural projects are essential and urgent demands in order to provide food and agricultural products for the fast growing Egyptian population.

A soil must contain a readily supply of most if not all of the major and minor essential elements for plant growth . However, these elements are present in soil in different chemical forms, the majority of which are quite insoluble and hence unable to provide plant with the nutrients required for its growth . Moreover, when the nutritive elements are added to the soil in an available form they may be changed into unavailable ones through some physical and chemical reactions with the other soil components.

Thus, increasing availability of the nutritive elements originally present in soil or keeping availability of those are applied to the soil to compensate a certain element deficiency requires a good understanding of the factors controlling availability of these elements in soil, especially within the root zone.

Therefore, the current study aims at investigating some of these factors that control mobility and availability of some macro and micro nutrients (i.e., P, Zn, Fe, Mn and Cu) in a sandy soil and Nile alluvial one.