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# **BOTANICAL STUDIES ON THE DEFICIENCY OF SOME NUTRIENT ELEMENTS IN COTTON AND TOMATO**

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## **BOTANICAL STUDIES ON THE DEFICIENCY OF SOME NUTRIENT ELEMENTS IN COTTON AND TOMATO**

### **ABSTRACT**

The aim of this investigation was to study the effect of N, P, K, Fe, Zn or Mn deficiency (N as ammonium nitrate 33.5% N, P as super phosphate 15.5% P<sub>2</sub>O<sub>5</sub>, K as potassium sulphate 48% K<sub>2</sub>O, Fe as ferric sulphate, Zn as zinc sulphate and Mn as manganese sulphate), on certain morphological, anatomical characters, chemical constituents and yield and its components for two economic plants cotton (*Gossypium hirsutum* L. cv. Gin 90) and tomato (*Lycopersicon esculentum* Mill., var. Nema). The results could be summarized as follows:-Plant height, internode length, number of branches/ plant (and number of fruiting branches/ plant in cotton), fresh and dry weights/ plant in cotton and tomato were decreased by N, P, K, Fe, Zn or Mn deficiency. There was a clear decrease of root section diameter, stem section diameter, leaf petiole section diameter and leaf blade thickness by omitting of all elements mentioned above. Chemical constituents represented in chlorophylls, carotenoids and total carbohydrates were decreased. Omitting of studied elements resulted in a great decrease in yield. In cotton this decrease was represented in total number of bolls/ plant, number of open bolls/ plant, seed cotton yield/ plant, lint yield/ plant, weight of seed yield and seed index. For tomato this decrease was represented by total number of fruits/ plant and fruit weight/ plant. Among studied elements, N had the greatest effect on all studied characters.