

## **Effects of $ZnSO_4$ foliar application on mineral concentration and yield and quality of Citrus.**

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Citrus trees are sensitive to Zn deficiency. About 85000 hectares from orchards of Mazandran province are allocated to citrus cultivation. Zn deficiency is perhaps the most wide spread nutritional disorder in citrus, occurring under a wide range of soil conditions and environments. Zinc - deficient leaves become very small and narrow and often stand more erect on stem (the angle between the leaf and stem decrease) also, fruit from zinc - deficient trees is small, and in severe deficiency, fruits may be thick - skinned and malformed. In such cases, the pulp is woody, dry, insipid, and low in acid and vitamin C.

Therefore, a field experiment was conducted to study effect of zinc on the yield and quality of citrus fruits (blood orange) that were grafted on sour orange (*Citrus aurantium*). The experiment was as completely randomized block design with 4 replications. Treatments consisted of 4 levels of  $ZnSO_4 \cdot H_2O$  (0, 0.2, 0.3 and 0.4% solution of zinc sulphate as foliar application). The results indicated that foliar application increased leaf Zn concentration.

So, leaf Zn concentration from  $24 \text{ mg kg}^{-1}$  in blank to 102, 160 and 198  $\text{mg kg}^{-1}$  (on leaf dry matter) increased in treatments 0.2, 0.3 and 0.4%, respectively. Also, application of zinc sulphate increased average weight fruit and diameter and the most average weight and diameter were obtained in treatment with 0.3% solution.