

## **THE EFFECT OF IRON AND ZINC SPRAYING ON CONCENTRATION OF DISSOLVED SOLID IN APPLE BEFORE AND AFTER STORAGE IN SEMIROM**

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### **Introduction**

Semirom has a convenient climate for construction of apple gardens. Due to the mass production of apple and because of calcareous nature of the region soil, most of the trees have the problem of absorbing materials such as zinc and iron. Therefore a pilot study was conducted to investigate the effect of iron and zinc spraying on the concentration of dissolved solids in the apple trees in Semirom.

### **Materials and Methods**

The experiment was carried out in split factorial in randomized blocks design with 16 treatments and three times on two types of Red Delicious and Golden Delicious apple. Iron Spraying was conducted in three levels: zero (control), one in a thousand and two in a thousand; and zinc spraying was conducted in three levels: zero (control), two in a thousand and three in a thousand in three stages. During the fruit harvest in autumn, some of the samples were transferred to refrigerator for storage and fruit TSS levels were measured and calculated before and after storage.

### **Results and Discussion**

Finally the statistical analysis including variance analysis and mean comparison by Duncan test using SAS software was conducted; the mean comparison showed that the effect of iron and zinc treatment and their mutual effects on TSS level of Red and Golden type had a significant difference at 1% level. In general it can be concluded that the iron and zinc treatments could have a positive impact on fruit TSS levels; thus it would increase the quality of the product.

**Keywords:** apple, iron, zinc, dissolved solid concentration, spraying