

The effect of microelement solution spray in potato yield in Ardabil

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The effects of seven treatments of microelement solution spray (Mn, Fe, Zn, Br, Br+Zn, Fosamco & Check) on potato yield and yield components was investigated during two years (1997-1998) at the Agriculture Research Station of Ardabil Islamic Azad University using a randomised complete blocks design with 3 replications on two conditions (farm and vegetation pot).

The analysis of data obtained in both experiments in two years showed that there were significant differences between treatments of study in terms of number of tuber, weight of tuber in plant and yield. Using microelements significantly increased the value of traits such as yield and weight of tuber in plant versus check treatment (not using microelement).

In this study the maximum yield was achieved by spraying of Iron and Zinc microelement fertilizers. The Application of Iron or Zinc in this experiment increased potato yield 6 ton/ha versus the check treatment. There were two reasons for higher yield per area unit in the above mentioned treatments:

- 1- the increasing of weight of tuber in plant by means of the accumulation of material in tuber by the effect of suitable metabolism
- 2- the deletion of Ca/Fe or Ca/Zn interaction in soil .

Using microelements of Iron or Zinc in potato farms of Ardabil was expected to increase potato yield up to 180000 tons per year, which is 1/14 total crops in Iran.

absence of (KH_2PO_4) , and (FeSO_4) .

Growth of aerial organs and callus initiation were low and there was no rooting.

Average length of single node low was affected less than other variables, so that the action of apical meristem in branching and leaving was more affected.