EFFECT OF FOLIAR APPLICATION OF BORON AND ZINC ON GROWTH, YIELD AND QUALITY OF TOMATO (*Lycopersicon esculentum*) IN BATTICALOA DISTRICT

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ABSTRACT

An experiment was carried out at the Crop Farm of Eastern University, Sri Lanka during the period December 2013 to April 2014 to study the effects of foliar application of boron, zinc and their combinations on vegetative growth, yield and quality of fruits of tomato plants grown in the sandy regosols of Batticaloa district, with the variety of Thilina. This experiment was laid out in a completely randomized design (CRD) with eight replicates with following combinations; T1-B (150 ppm), T2-B (250 ppm), T3-B (350 ppm), T4-Zn (150 ppm), T5-Zn (250 ppm), T6-Zn (350 ppm), T7-B (150 ppm)+Zn (150 ppm), T8-B (250 ppm)+Zn (250 ppm), T9-B (350 ppm)+Zn (350 ppm) and T10- Control.

The results showed that foliar application of Zn alone at 250 ppm resulted in the maximum plant height, number of flower clusters/ plant, number of flowers/ plant, number of fruits/ plant, fresh and dry weight of fruits/ plant. Foliar application of B at 250 ppm increased pulp weight, seed weight, dry weight of leaves/ plant and dry weight of stem/ plant, and dry weight of roots/plant were high in both B at 250 ppm and Zn at 150 ppm. Combined application of B (350 ppm) and Zn (350 ppm) increased the acidity and ascorbic acid content whereas B at 150 ppm increased total soluble solid content and B at 350 ppm increased pH of the fruits. In all parameters, the lowest performance was recorded in the control treatment.

The results suggest that under the conditions in the experiment, yield could be increased by 21 % by the application of Zn at the rate of 250 ppm at flowering stage. Therefore, foliar application of B and Zn is one of the ways to increase yield during off-season.

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