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The Influence of Boron on Some Plant Nutrients in Sweet Sorghum (*Sorghum bicolor* L.)

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Abstract: *Boron is one of the important micronutrients which plays important role in plant growth. The supply of boron to the plants plays key role in behaviour of other macro and micro nutrients in the plant. The response of plants to boron varies with soil type, environmental conditions and plant species also. So, the excess or deficiency of boron may affect the uptake and availability of other plant nutrients. The sweet Sorghum is important crop used as food, fodder, fuel and fertilizer. It can produce sugar juice from the stem that is useful to produce ethanol, jaggery and syrup along with grains. The sweet Sorghum c. v. Madhura and RSSV-9 were selected for the present investigation. The seeds of these varieties were sown in the earth pots having 2x3x2 feet in size and depth. An average of 25 kg of black soil was used with average 2 kg of organic farm manures per pot. The selected soil was analysed for its original boron concentration. The soil is having 0.0339 ppm boron in it with p H 6.7. After 15 days, 40 days and 70 days of sowing, the pots were treated with different boron concentrations like 10 ppm, 50 ppm and 100 ppm along with control having distilled water only. Five fresh leaf samples were collected randomly on the 5 th day of last boron treatment and washed with distilled water for further analysis. In the present investigation an attempt has been made to study the behaviour of inorganic contents like magnesium and manganese in sweet sorghum cultivars Madhura and RSSV-9 after treating with different boron concentrations. The results are showing consistent decrease in magnesium content due to all the boron treatments in both the cultivars but significant decrease in Mg content reported with 100 ppm boron in c. v. Madhura. The manganese activity is increased due to 10 ppm boron treatment in both the varieties. As boron treatment is increased the Mn level is decreased as compare to control plants in both cultivars under investigation.*

Keywords:Boron, Magnesium, Sorghum, etc.

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