

The effect of different levels of magnesium, zinc and sulfur, on quantitative and qualitative yield of foxtail millet (*Setaria italica* L.)

Abstract

In order to investigate the effect of different levels of magnesium, zinc and sulfur on yield and quality foxtail millet, a factorial experiment in a randomized complete block design with three replications in Zabol University Agricultural Research Institute (chah nimeh) was carried out. Magnesium fertilizer treatments consisted of three levels (0, 50 and 100 kg ha magnesium sulfate), Zinc fertilizer treatments at three levels (0, 30 and 60 kg Zn) and sulfur fertilizer treatments at two levels (0 and 100 kg ha) were considered. In this study, micro-nutrients, magnesium, zinc and sulfur in the soil in early spring and the beginning of the growing season were applied before flowering. Plant height, effective tillers, grain weight, biological yield, grain yield, harvest index, leaf chlorophyll concentration measurements and micro-nutrients in grains was studied. There was a significant difference in magnesium concentration in the seed, but seed weight and biological yield were not affected by fertilizer and magnesium. The highest grain yield, fertile tillers, harvest index and leaf chlorophyll and maximum magnesium treatment plant belonged to the combination of zinc and magnesium. The highest yield of 100 kg per hectare fertilizer consumption of magnesium sulfate treatment on average 329.33 kg per ha and the difference was evident in the treatments with other micro-nutrients. Thus, we can conclude that the use of micronutrient increases the qualitative and quantitative characteristics of foxtail millet in the region tested. The necessity of taking magnesium, sulfur and micronutrients along with the show.

Key words: *Macro nutrients, Micro nutrients, Leaf chlorophyll, Foxtail millet*



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