

Effect of Phosphorus Biofertilizer and Micronutrients Foliar application on Yield quality and quantity of Corn *var K S C 704*

Abstract

In order to study the effects of phosphate fertilizers coupled with micro nutrients sprayed on quantitative and qualitative characteristics of corn S.C. 704, an experiment during 2009 at Kerman Natural Resources and Agriculture research station, based on a split plot design in randomized complete block in four replications. Sprayed with micronutrient fertilizer containing elements Fe, Zn, Mn, Cu and non-sprayed were as main factor and four levels of fertilizer: 0, 100 kg/ha P_2O_5 , 50 kg/ha P_2O_5 + biofertilizer and biofertilizer, was used as sub plots. The results showed that phosphorus fertilizers and micro nutrients sprayed had significant impact on increasing dry matter during whole growth stages. All studied properties such as kernel weight, ear number per plant, number of seed rows per ear, kernel number ear, cob weight, cob diameter, ear weight, kernel weight, biological yield, kernel yield, plant height, shoot diameter, length and width of flag leaf, phosphorous and zinc content in kernels and protein percent in kernels were influenced by phosphorus fertilizers. The highest rate of studied properties biofertilizer + 50 kg/ha P_2O_5 was observed. Foliar application of micro nutrients influenced on plant height, flag leaf length, phosphorous and zinc content in kernels, kernel weight, biological yield and dry matter accumulation rate. Interaction of phosphorus fertilizer and micro nutrient sprayed had a significant effect on plant height and phosphorous and zinc content in kernels. It seems that application of biofertilizer together with chemical fertilizer is a useful method for increasing yield and reducing environmental pollutions.

Key words: Corn, Foliar application, Micronutrients, Biofertilizer, Phosphorus fertilizer, Yield



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