Zn Chelate Application on Zn Deficient Soil Cultivated with Maize under Greenhouse

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Abstract

The zinc is a micronutrient that limits the production of the maize in Brazil, being its very common deficiency in all the regions of the country. With the objective of evaluating the effect of the zinc rates in micronutrients concentration in soil, in plants and maize shoot dry matter production, an experiment in pots containing Haplustox (Latossolo Vermelho). It was used a complete randomized design, with three replications of treatments, in a factorial arrangement 6 x 3 (six rates of zinc and three sources). It was used following rates of zinc: 0; 0.5; 1; 2; 4 e 6 mg kg-1, and sources: Zn-EDTA, Zn-lignosulfonate (Zn-LS) and zinc sulfate. It was observed zinc application increase the initial growth of maize crops, with the 90% of maximum production in 0.9 mg kg^{-1} zinc concentrations in soil and 16 mg kg^{-1} in plants. The source of Zn-lignosulfonate proportioned the highest Zn concentration in soil and plant, therefore it isn't observed difference among the sources in nutrients absorption and dry matter production. The increase zinc rates increased concentration in plants, in soil and Zn accumulated. It was observed a few answer in dry matter production with rates application above 2 mg kg^{-1}.

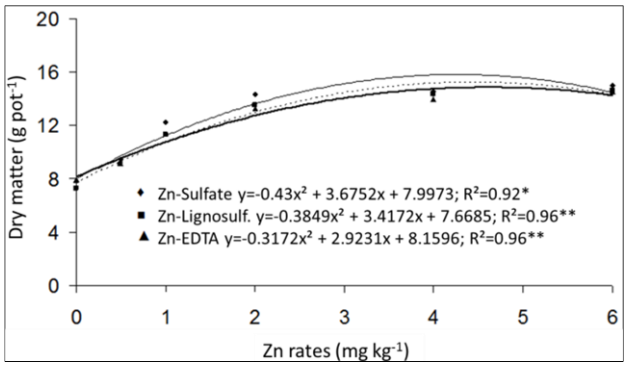




Figure 1 and 2 – Effect of the zinc rates in dry matter production

Keywords: micronutrients, critical level, Zn-lignosulfonate, Zea mays, Zn-EDTA.

Professional Biography

Roberto Savério has completed his Graduation at the age of 22 years from University State of São Paulo in Brazil (Unesp – campus Ilha Solteira) and Master studies form University State of São Paulo (Unesp – campus Jaboticabal). He is Agronomist Engineer in Coordenadoria de Assistência Técnica Integral (CATI) and he works with family farmers in projects of São Paulo

State Government. He has experience as an extensionist in the area of Plant Science, with emphasis on management and cultural treatments, plant nutrition and fertilization and also in the area of Topography and Rural Engineering. He is also a university professor at Centro Universitário Unifafibe, in Bebedouro city, in the Agronomic Engineering course. He has published more than 8 papers in cientific journals and he has 29 presentations of the work.



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