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RESEARCH PAPER

Effect of different levels and sources of zinc fertilizers on the growth and yield of okra in coastal sandy soil

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Abstract : To find out the effect of different levels and sources of zinc fertilizers on the growth and yield of okra in coastal sandy soil, a pot experiment was carried out in the department of Soil Science and Agricultural Chemistry, Annamalai University during January –April 2014. The texture of the soil was sandy and taxonomically classified as *Typic usticpsamments* with pH-8.32, EC-1.54 dS m^{-1} and represented low status of organic carbon (2.30 g kg^{-1}). The soil had low alkaline $KMnO_4$-N (134.50 kg ha^{-1}), low in Olsen- P (9.48 kg ha^{-1}) and medium in NH_4OAc-K (178.20 kg ha^{-1}). The available Zn (DTPA extractable Zn) content was 0.71 mg kg^{-1} in soil. The sixteen treatments consisted of four levels of zinc *viz.*, 0, 10, 15 and 20 mg kg^{-1} Zn as factor-A and three different sources of zinc fertilizers *viz.*, control, zinc sulphate ($ZnSO_4$), Zn-EDTA and Zn-Humate as factor-B. The experiment was laid out in a Factorial Completely Randomized Design (FCRD) with three replications using okra variety MBH-64 as test crop. The results revealed that the combined application of Zn @ 15 mg kg^{-1} through Zn-Humate (A_2B_3) significantly increased the growth, yield characters and yield of okra.

Key Words : $ZnSO_4$, Zn-EDTA and Zn-Humate, Growth, Yield, Okra, Coastal sandy soil

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