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Research Article

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Influence of clay and organic amendments on the yield and zinc nutrition of blackgram in coastal sandy soil

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Summary

Zinc is an important micronutrient required by plants and animals. Zn is one of the deficient nutrient in sandy soil of coastal agro ecosystem owing the unfavourable soil characteristics namely low organic matter, CEC and high leaching etc. A pot experiment was carried out in the Department of Soil Science and Agricultural Chemistry, Annamalai University during Feb.-Apr.' 2017, to evaluate the influence of clay and organic amendments *viz.*, FYM and humic acid on the yield and Zn nutrition of blackgram. The soil was sandy, slightly saline with pH 8.07 and represented low available NPK and Zn status. In a Completely Randomized Design, the following treatments namely T_1- Control (100% recommended dose of NPK), T_2- NPK + $ZnSO_4$ @ 25 kg ha^{-1}, T_3- T_2 + clay @ 20 t ha^{-1}, T_4- T_3 + humic acid @ 20 kg ha^{-1}, T_5- T_3 + FYM @ 12.5 t ha^{-1} were studied using four replications. Black gram variety ADT-3 was grown, during the crop period, various growth and yield parameters and yield were recorded. The results of the study indicated that the application of clay and organic amendments were efficient in improving the growth, yield and Zn nutrition of blackgram. Among the treatments T_4, application of NPK + $ZnSO_4$ @ 25 kg ha^{-1} + clay @ 20 t ha^{-1}+ humic acid @ 20 kg ha^{-1} accounted for a significant increase in the yield and nutrition of blackgram by recording higher content and uptake of macro and micro nutrient Zn.

Key words : Coastal sandy, Blackgram, Yield, Zinc nutrition

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