



Effect of phosphorus and zinc fertilization on yield, nutritional quality and nutrient content in root of maize in vertisols

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F ield experiment was carried out to study the response of phosphorus and zinc application on yield, quality and nutrient content in root of maize during kharif season of 2006-2007. Response of maize was found significant due to application of P and Zn. Application of P at 40, 60 and 80 kg ha-1 resulted in increased yield to the tune of 11, 18 and 20 per cent respectively, over no use of P. The highest grain yield of 59.44 q ha-1 was obtained with P applied at 80 kg ha-1. Increasing levels of zinc gave significantly increased grain yield of maize 58.10 qha-1 was obtained by the application of 20 kg ZnSO4 ha-1. The increase in grain yield of maize was to the extent of 9 per cent with increasing levels from 0 to 20 kg ZnSO4 ha-1. The highest fodder yield (135.55 q ha-1) was obtained with P application of 80 kg ha-1 which was found significantly at par with P level receiving 60 kg P ha-1 having yield (129.68 q ha-1). Results regarding the interaction effects of phosphorus and zinc levels on fodder yield indicate that, the higher fodder yield 136.39 q ha-1 was obtained with the application of 80 kg P ha-1 coupled with 20 kg ZnSO4 ha-1. Starch content was significantly reduced with increasing levels of P whereas, maximum fat 2.36% and crude fibre 2.61% were shown under P applied at 60 kg ha-1. Concentration of N and P in maize root was significantly increased with increasing levels of P and Zn.

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