

EFFECT OF PHOSPHORUS AND ZINC APPLICATION ON YIELD AND NUTRIENT COMPOSITION OF RICE CROP WITH WATER SALINITY

V.P Singh and B. Pal

Department of agriculture Chemistry and soil science R.B.S. College Bichpuri, Agra (U.P) 283105

Abstract: Two year pot experiment were conducted in green house to study the effect of phosphorus doses viz-P-40,P₂-80; P₃-120 kg ha⁻¹. Four levels zinc sulphate viz-Control, Zn₁-25, Zn₂- 50 and Zn₃-75 kg ha⁻¹ and three levels of water salinity viz-EC₀- Control EC₁ 8, and EC₂-16 dSm⁻¹, significantly decreased grain yield with increasing levels of salinity yet increased higher dose of P and Zn. The maximum grain yield was recorded at P₂ (80 p₂₀₅kg ha⁻¹) and Zn₂ (50 kg ZnSo₄ kg ha⁻¹) and yield to extent of 19.04 and 28.96% and 46.11 and 43.24% during 1st and 2nd years respectively. The incensement of EC significantly decreased P.K. Ca and Zn increased N and Na content (%). The P and Zn application significantly increased the N,K and Ca. However incensement doses of P increased P content (%) but Na & Zn content (%) decreased. While zinc sulphate application enhanced the Zn content (%) and decreased that of P and Na contents.

Keywords: EC, N; P; K, Ca, Na, Zn, Content (%), yield and salinity

REFERENCES

- Jat, J.R. and Mehra, R.K.** (2007) Effect of Sulphar and Zinc on yield, Macronutrient content in and uptake by Mustard on haplutepts. *Journal of the Indian Society of soil Sciece* **55**, 190-95.
- Khandewal, R.B. Singh Baldev and Singh Banani** (1990) effect of quality irrigation water on soil properties yield and Nutrient composition of different gram genotypes. *J. Indian soc. Soil Sci.* **38** (2); 358.60.
- Kumar, V. and Verma, M** (1999) Effect of phosphorus and sulphar application on yield, their content and uptake in wheat. *Ann Pl. Soils res.* **1**:77-72.
- Kumar, D. Chauhan, R.P.S. Singh, B.B. and Singh Pal. V.** (1999) Response of rice (oryzasativa) to Zinc sulphate Incubated and blended with organic Materials in sodic soil. *Indian. J. Agric. Sci.* **69** (6) 402-05.
- Lal; M. Chippa, B.R., Khangral, S.S., Singh, J. and Sharma, M** (1999) Effect of water varying in Ca/B ratio, salinity and Adj., SAR on yield and composition of Barley, *Ann. Pl. Soil Res.***1**: 1-5.
- Pal, B. and Tripathi, B.R.** (1978) Quality of irrigation water and its effect on soil characteristic in semi-desert tract of Uttar Pradesh. A potential hazards of boron in irrigation water. *Indian J. Agron.* 192-95.
- Sharma, Y.K. and Pal, B.** (2001) Effect of Nitrogen and Zinc application and bromated Salini-Sodic water on the herb yield, ail content and Nutrient composition of Palmavosa. (Cymbopogon Martine) *Indian J. Agric. Sci.* **71** (2): 102-105.
- Swarup, Anand and Yaduvanshi, N.P.S.** (2000) Effect of integrated Nutrient Management of soil properties and yield of rice in Alkali soils *J. Indian Soc. Sci.* **48** (2): 279-282.
- Tripathi, B.R. and Pal, B.** (1980) The quality of irrigation water and its effects on soil characteristics and on the performance of wheat *Int. Symp. Salt Affected soils, Karnal, 376-81.*