SHORT COMMUNICATION

EFFECT OF MODIFIED AND SPLIT APPLICATION OF SSP ON AVAILABILITY OF PHOSPHORUS AT DIFFERENT GROWTH STAGES OF TRANSPLANTED RICE (*ORYZA SATIVA* L.)

S.K. Yadav, Suresh Kumar*, A.K.S. Parihar and K.K.Verma

Department of Soil Science, Narendra Deva University of Agriculture & Technology, Kumarganj, Faizabad (U.P.) 224 229

Received-26.08.2015, Revised-22.12.2015

Abstract: A field study was carried out at instructional farm of Narendra Deva University of Agriculture and Technology, Kumarganj, Faizabad during *Kharif* season, 2010-11 to evaluate the effect of modified phosphatic fertilizer on apparent recovery and phosphorus content in soil and transplanted rice. The experiment was comprised with nine treatments i.e. (T_1) control, (T_2) 100% RDPF, (T_3) 50% basal +50% top dressing in one split at tillering stage, (T_4) 50% basal+50% top dressing in two split 25% at tillering and 25% at PI stage, (T_5) mahua oil coated SSP, (T_6) neem oil coated SSP (T_7) gypsum coated SSP, (T_8) cow dung coated SSP and (T_9) poultry manure coated SSP. These were replicated as thrice under randomized block design. Rice variety NDR-359 was taken as test crop. The experimental soil having pH (1:2.5) 8.8, EC 0.41 dSm^{-1}, organic carbon (0.27%), available nitrogen (188.54), P_2O_5 (16.64) and K_2O (254.83) kg ha^{-1}. The availability of phosphorus significantly increased with the application of phosphorus at all crop growth stages in soil over the control. The maximum available phosphorus was obtained with the application of phosphorus coated with gypsum at tillering, panicle initiation, milking and harvest stages (32.60, 29.20, 24.30 and 19.70 $kgPha^{-1}$), respectively which was significantly superior over mahua oil, cow dung, poultry manure coated and all split application and at par with neem oil coated SSP.

Keywords: Modified SSP, Rice, Salt affected soil, Phosphorus availability

REFERENCES

Bhattacharya, S.P; Sitangshu Sarkar; Karmakar, A.J and Ghatak, S.S. (2004) effect of neemsaar (organic manure) on yield components and yield of *kharif* paddy. Environment and Ecology. 22 Spl-(40 684-686.

Olsen, S.R.; V.V; Watanabe, F.S. and Dean, L.A.(1954). Estimation of available phosphorus by extraction with sodium bicarbonate, *USDAcire.*939.

Sarkar, A.K. and Chaudhary, K. (1988). Relative efficiency of different methods of phosphatic fertilizer application on yield ad P nutrition of rice. *Journal of Indian Society of Soil Science.*36:466-470.

Subramanyam, K. and Dixit, L.A. (1988). Effect of different coating materials on the pattern of phosphorus release form superphosphate. *Journal Indian Society. of Soil Science,* 36:461-465.

Singh, S. and Swami, B.N. (2006). Effect of different types of coating materials on the solubility of granulated single super phosphate. *J. Indian Soc.*, 36:461-465

Yadav, D.S; Kumar, Vineet and Yadav, Vivek (2009) effect of organic farming on productivity, soil health and economics of rice (Oryza sativa)-wheat (*Triticum aestivum*) system. *Indian Journal of Agronomy* 54 (3): 267-271.

*Corresponding Author