THE NEGLECT OF POTASSIUM: NECESSITY OF K FOR CROP SUSTAINABILITY A REVIEW

Yushma Sao¹, Nitesh Maru², P.K. Keshry¹ and Rakesh Giri Goswami³

¹Deptt. of Soil Science, TCB College of Agriculture and Research station, Bilaspur (C.G.) ²Agriculture Department, Korba (C.G.) ³Deptt. of Soil Science, I.G.K.V, Raipur (C.G) Email : yush27ag_guj@yahoo.co.in

Received-01.01.2015, Revised-08.02.2015

Abstracts: In ancient time, agriculture was more or less sustainable due to regular organic fertilization. Due to various economic constraints, farmers are forced to apply agrochemicals that give higher returns resulting in relatively high N input and a coincidental decrease of other nutrients including K. This situation is accompanied by negative K balance for many agricultural regions and indicates only a short- term consideration. A long term neglect of K would result in a non-sustainable situation for crop productivity.

Keywords: Productivity, Crop, Potassium, Agrochemicals

REFERENCES

Ahluwalia, M.S. (2005). Reducing poverty and Hunger in India- The Role of Agriculture. IFPRI Annual Report 2004-05, pp. 1-5.

Akhtar, M.E., Tahir-Saleem, Stauffer, M.D. (2003). Potassium in Pakistan Agriculture, Pakistan Agricultural Research Council, Islamabad.

Anonymous (2008). Ph.D. Thesis, B.A.C.A., A.A.U., Anand.

Cakmak, I., Hengeler, C., Marchner, H. (1994). Changes in phloem export of sucrose in leaves in response to P, K and Mg deficiency in bean plants. *Journal of Experiment Botany:* 45: 1251-1257.

Christensen, N.W., Taylor, R. G., Jackson, T.L. and Mitchell, B.L. (1981). Chloride effect on water potential and yield of winter wheat infected with take-all root rot. *Agronomy Journal*: **73**: 1053-1058.

Jensen, H. Henning D. and Pedersen, M.B. (2003). Morphological plasticity by crop plants and their potassium use efficiency. *Journal of Plant Nutrition*; 26: 969-984.

Jeyakumar, P, Kumar, N., and Soorianatha, S. (2001). Fertigation studies in Papaya. *South Indian Horticulture*; **49**: 71-75.

Malakouti, M.J., Shahabi, A.A. and Bazargan, K. (2005). Potassium in Iranian Agriculture. Sana Publication Co., Ministry of Jihad-e Agriculture, Tehran, Iran.

Nambiar, K.K.M. and Ghosh, A.B. (1984). Highlights of Research on Long-Term Fertilizer Experiments in India (1971-82). Indian Agricultural Research Institute, New Delhi, India; pp. 198. **Prabhu, A.S., Barrbosa, Filho, M.P., Filippi, M.C. Zimmrmann, F.J.P.** (1999). Relationship between potassium fertilization and panicle blast severity in upland rice. Pesq. Agropec. Bras.; **34**: 1729-1732. **Prasad, R.** (2006). Concept Note: Brain Storming

Session on Low and Declining Crop Response to Fertilizers. Feb. 20-21, 2006 NAAS, New Delhi.

Samra, J.S. (2006). Declining Factor Productivity and Sustainability of Crop Production. Proceedings of the International Symposium held at PAU, Ludhiana, India 22-25 Nov. 2006 Vol. I. pp. 26.

Santhy, P, Jayashree-Shankar, S., Muthuvel, P. and Selvi, D. (1998). Long term fertilizer experiments- Status of N, P, K fractions in soil. *Journal of Indian Soc. Soil Sci.*, vol. 46 (3): 395-398. Saxena, S.K. (1995). Constraints and opportunities for fertilizer use. *Agro- chemicals News*; 18: 2.

Sharma, S.P., Subehia, S.K. and Sharma, P.K. (2002). Lonr term effects of chemical fertilizers on soil quality, crop productivity and sustainability. Research Bulletien, Department of soil Science, CSK *Himachal Pradesh Krishi Viswavidayalaya*, *Palampur*; pp. 33.

Xiong, M.B. Song, G.Y., Mao, B.H. and Shi, X.J. (2000). Effects of fix point applied potassium on the yield and quality of wheat and rice in purple soil. *Journal of Sichuan Agricultural University*; **18**: 359-362.

Yaduvanshi, N.P.S. and Anand- Swarup (2006). Effect of long term fertilization and Manuring on Potassium Balance and Non- exchangeable K release in Reclaimed Sodic Soil. *Journal of Indian Soc. Soil Sci, vol.* 54 (2): 203-207.

*Corresponding Author