

INFLUENCE OF DIFFERENT DATE OF PLANTING OF RICE ON YIELD AND CROP PRODUCTIVITY IN VERTISOLS

Rahul Kumar*, Anurag, Ritesh Kumar Singh and R.N. Singh

¹College of Agriculture, Bharatpur

^{2,3,4}College of Agriculture, I.G.K.V, Raipur 492012, India

Email: rahulsoiligkv@gmail.com

Received-05.04.2021, Revised-18.04.2021, Accepted-27.04.2021

Abstract: The nutrient management practices were also influenced due to variable climatic conditions during the crop growth period and nutrients availability was influenced through soil plant atmosphere continuum which in turn resulted in higher rice yields due to variable treatments. The nutrient management practices influenced the growth and yield of rice and highest grain yield of rice (38.78 q/ha) was recorded with T5 (100%NPK+ Zn+ S +GM @6 t/ha+ FYM @3 t/ha +Straw@3 t/ha as mulch +1% Fe + 0.2% B spray) treatment. The major and micronutrient content in grain and straw was also influenced significantly due to application of organics and fertilizers and higher contents were recorded T5 (100%NPK+Zn+S+GM @6 t/ha+ FYM @3 t/ha +Straw@3 t/ha as mulch +1% Fe + 0.2% B spray) and, T4 (150% NPK + Zn + S + 1% Fe + 0.2% B spray) treatments.

Keywords: Crop, Growth, Yield, Productivity, Rice

REFERENCES

- Ashrof, M., Mahamood, S., Munsif, M. and Yousuf, M. (1989). Relationship of transplanting and grain yield of Basmati 385. *Int Rice Res News* 1.15:8
- Ail, A., Zia, M.S., Hussain, F., Salim, M., Mahmood, I.A. and Shahzad, A. (2005). Efficacy of different methods of potassium fertilizer application on paddy yield, K uptake and agronomic efficiency. *Pakistan J. Agri. Sci.* 42(1-2):27-32.
- Chapman, L. and Pratt, E. (1961). *Soil chemical analysis* Prentice hall of India Private limited . New delhi.
- Gupta, P.C. and O' Tool, J.C. (1986). *Upland Rice A Global Perspectives* .International Rice Research Institute, Los Banos , Laguna, Philippines.
- Jackson, M. L. (1958). *Soil and Chemistry Analysis*, 1st Indian edn, pp. 32-38. Asia Publishing House, Delhi. New
- Jha, Kumar Santosh (2001). Effect of Integrated nutrient management practices on nutrient use Efficiency, yield ,nutrient uptake and quality of sented rice (*Oryza sativa* L.) M.Sc.(Ag.) Thesis, *Indira GandhiKrishiVishwavidyalaya, Raipur*.pp – 83-84.
- Murali, M.K. and Setty, R.A. (2001). Growth, yield and nutrient uptake of scented rice (*Oryzasativa* L.) as influenced by levels of NPK, vermicompost and triacontanol. *J. Agri.Sci.* 35(1):1-4 .
- Pandey, N., Upadhyay, S.K., Joshi, B.S. and Tripathi, R.S. (2001). Integrated use of organic manures and inorganic N fertilizers for the cultivation of low land rice in vertisol. *Indian J. Agric. Res.*, 35 (2) : 112 – 114
- Qi-Chun, Zhang and Gaung-huowang (2005). Studies on nutrient uptake of rice and characteristics of soil microorganisms in a long-term fertilization experiments for irrigated rice. *J Zhejiang UnivSci B.* 6(2): 147–154
- Rahman, M. M., Amano, T. and Shiraiwa, T. (2009). Nitrogen use efficiency and recovery from N fertilizer under rice-based cropping systems. *Australian Journal of Crop Science* 3(6):336-351.
- Rahman, M., Rahman, T., Jahiruddin, M., Humauan, M. R., Alam, M. J. and A.khan, A. (2008). Effect of sulphur and zinc on growth, yield and nutrient uptake of Boro rice (cv. Brridhan 29). *J. Soil. Nature.* 2(3):10-15.
- Rehman, S.U., Hussain, N., Tariq, M., Hussain, M., Nasir, M. and Ayaz, M. (2012). response of wheat to exogenous boron supply at various growth stages *Sarhad J. Agric.* 28.(3) 411-413.
- Ravi, K. and Rao, K. Rama (1992). Studies on levels and times of application of potassium for kharif rice (*Oryza sativa* L). *The Andhra Agri. J.* 30 (1-2):74-76.
- Sharma, Dinesh, Sagwal, Pardeep Kumar, Singh, Ishwer and Sangwan, Ajit (2012). Influence of different nitrogen and phosphorus levels on profitability, plant nutrient content, yield and quality in basmati cultivars. *I.J.I.E.A.S.R1*, No. 1,1-4.
- Samrathal, M., Surendra, S. and Shivay, Y.S. (2003). Response of hybrid rice (*Oryza Sativa*) to nitrogen and potassium application in sandy clay-loam soils. *Indian J Agri.Sci.* 73 (1):8-11.

*Corresponding Author