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Effect of different organic sources on nutrient status in rice based cropping sequence

Niladri Paul¹, Gourab Roy², Utpal Giri¹, Ashim Datta³ and Dipankar Saha⁴¹College of Agriculture, Tripura, India²Ishwar Chandra Vidyasagar College, India³Central Soil Salinity Research Institute, Haryana, India⁴Bidhan Chandra Krishi Viswavidyalaya, West Bengal, India

The influence of organic matter vis-a-vis humic acids on the availability of nutrient status and its impact on the cultivation of rice (Variety MTU 1010) followed by mustard (Variety B-9), was studied in *Typic Fluvaquent* soil under Old Alluvial zone of West Bengal, India. Soil texture was identified as sandy clay loam, bulk density 1.34 Mg m⁻³, oxidizable OC 1.16 g 100gm⁻¹, pH 6.34, total nitrogen 0.14 g 100gm⁻¹, available phosphate, potash and sulphate 25.90, 127.40, 39.56 kg ha⁻¹, respectively. Soils received recommended doses of fertilizers for cultivation of paddy (N:P₂O₅:K₂O::60:30:30) followed by mustard (N:P₂O₅:K₂O::80:40:40) along with FYM at 5.0 and 2.5 t ha⁻¹, both Commercial and FYM extracted humic acid (CHA & EHA) at 0.5, 0.25 kg ha⁻¹, respectively as per treatment combinations and following RBD treatment. Rhizosphere soil (0-15 cm) and plant samples were periodically collected and analysed for C:N ratio, available phosphate, potash and sulphur with their integral effect on crop growth. At PI and branching stages of paddy and mustard, the highest content of available phosphate, potash and sulphur was recorded and gradually decreased towards harvesting stage. EHA resulted highest availability of phosphate and sulphur, however CHA enhanced the content of potash in soil, resulted significant uptake of nutrients within plants and qualitative enrichment through biometric parameters and yield.

Biography

Niladri Paul received his B.Sc (Ag.) Hons degree in 2005 from Viswa Bharati, M.Sc (Ag) and Ph.D degree in Agricultural Chemistry and Soil Science in 2007 and 2013, respectively. He secured first class in all examinations. He started his carrier as an Agricultural Officer under Government of Tripura in 2007 followed by as an Assistant Professor in Soil Science and Agricultural Chemistry at College of Agriculture, Tripura in 2014. He had obtained Young Scientist Award in Acharya Prafulla Chandra Ray memorial symposium and celebration of International year of chemistry - 2011. He has 19 research publications and co-author of a Bengali book. He is regular in local daily and external examiner / paper setter in different Agricultural Universities. He is Editorial Board member in 5 journals. He is trained in Agri-Business Management, GIS application, biofertilizer production, watershed management.

nilupaul82@rediffmail.com

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