



Effect of integrated soil fertility management practices on production and productivity of wheat (*Triticum aestivum*) in alluvial soils of central plain zone of Uttar Pradesh

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Abstract : An investigation on integrated soil fertility management practices in wheat crop was conducted during *Rabi* season of 2011-12 at Students' Instructional Farm of C.S. Azad University of Agriculture and Technology, Kanpur. The treatment consisted of seven super imposed doses of vermicompost @ 25.0 t/ha, farm yard manure @ 10.0 t/ha, *Azotobacter* and PSB as individual and in combination with recommended dose of fertilizer treatment (150 N : 60 P₂O₅ : 40 K₂O : 20 S : 20 Zn, kg/ha). The experiment was laidout in Randomized Block Design and treatments replicated three times. The soil of field was sandy loam in texture, deficient in nitrogen, medium in phosphorus and potash. The wheat variety Mahi (K-402) was sown on 12th December, 2011. The response of integrated soil fertility treatments was analysed on growth parameters, yield attributes and yield as well as economic parameters of wheat crop. All the super imposed fertility treatments responded well in terms of increase in yield of wheat crop to the tune of 6.93 per cent to 22.48 per cent compared to control treatments. The results revealed that the treatment consisted of recommended dose of fertilizers + vermicompost @ 5.0 t/ha + *Azotobacter* and PSB as seed treatment and sprayed at 1st and 2nd irrigation (T-8) registered highest grain yield (56.70 q/ha) of wheat followed by RDF + vermicompost @ 5.0 t/ha + *Azotobacter* and PSB as seed treatment and sprayed under 1st irrigation (55.55 q/ha), RDF + FYM @ 10.0 t/ha + *Azotobacter* and PSB as seed treatment (55.32 q/ha) were significantly at par, RDF + vermicompost @ 5.0 t/ha + St. with *Azotobacter* and PSB (54.39 q/ha) differed significantly and lowest grain yield (46.29 q/ha) of wheat was recorded under only RDF treatment (control). The maximum gross income (Rs. 87443.00) and net income (Rs. 37000.00) was also recorded in treatment of RDF + vermicompost 5.0 t/ha + *Azotobacter* and PSB as seed treatment and sprayed at 1st and 2nd irrigation T-8).

Key Words : Wheat, Organic manure, Microbial inoculants, Recommended dose of fertilizers

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