

Integrated nutrient management with inorganic fertilizers, vermicompost, biofertilizer and zinc sulphate in wheat (*Triticum aestivum*)

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SUMMARY

A field experiment was conducted during Rabi 2010-11 and 2011-12 at Kanpur on sandy loam soil to assess the influence of integrated nutrient management on wheat (*triticum aestivum*). Treatments comprised of 12 nutrient levels viz., control, 100% RDF (150 kg N + 60 kg P_2O_5 + 40 kg K_2O through chemicals fertilizers), 75% RDF, 50% RDF, 75% RDF + vermicompost 2.5 t/ha, 50% RDF + vermicompost 5 t/ha, 75% RDF + vermicompost with $ZnSO_4$ 25 kg/ha and/or *Azotobacter*, 50% RDF + vermicompost with $ZnSO_4$ and/or *Azotobacter*. Results revealed that application of 100% RDF recorded the highest productive shoots/m², grain weight/spike, grain yield, straw yield, net return and B:C ratio. In grain yield, the pretreatments of 75% RDF + vermicompost with $ZnSO_4$ and/or *Azotobacter* also remained significantly at par with 100% RDF, but in net return and B:C ratio, 100% RDF recorded significantly highest. Any reduction in 100% RDF either alone or in integrated nutrient treatments, yield attributes, yields, net return and B:C ratio showed considerable reduction. Therefore, to attain higher production and profit, the application of 100% RDF through inorganic fertilizers is needed in wheat crop under central Uttar Pradesh condition.

Key Words : Wheat, Fertilizer, Vermicompost, Zinc, *Azotobacter*, Productivity, Economics

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