

EFFECT OF INTEGRATED NUTRIENT MANAGEMENT ON GROWTH DYNAMICS AND PRODUCTIVITY TREND OF WHEAT (*TRITICUM AESTIVUM* L.) UNDER IRRIGATED CROPPING SYSTEM

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Abstract: A field experiment was conducted during rabi season of 2011-13 at C.S. Azad University of Agriculture and Technology, Kanpur, in randomized block design with three replication to assess the effect various type of organic, inorganic and bio-fertilizers on growth attributes, yield and their relationship acquisition. The 10 treatments were tested in RBD design. T1-Control, T2 - RDF (150:60:40 NPK Kg/ha), T3 - 125% RDF, T4 - RDF + Vermicompost @2.5 t/ha, T5 - RDF + Vermicompost @ 5t/ha, T6 - RDF + FYM @ 5t/ha, T7 - RDF + FYM @ 10t/ha, T8 - RDF + Vermicompost @2.5 t/ha + Azotobacter, T9 - RDF + FYM @ 5t/ha + Azotobacter, and T10 - RDF + Vermicompost @ 2.5 t/ha + FYM @ 5 t/ha + Azotobacter. Different levels of vermicompost and NPK fertilizers showed significant effect on growth attributes and yield contributing characters of wheat. Results showed that application of chemical fertilizer with organic manures gave the maximum yield. Combined application of organic manures and inorganic fertilizers increased the dry matter accumulation, leaf area index, no of tillers and yield by wheat compared to treatments T2, T3 where only chemical fertilizer applied through urea, dia ammonium phosphate and murate of potash. The highest grain and straw yield of wheat to the extent of 56.2 and 75 q/ha respectively was obtained where FYM, vermicompost, bio-fertilizer and recommended dose of NPK was applied in the rate of 100% RDF + Vermicompost @ 2.5 t/ha + FYM @ 5 t/ha + Azotobacter, respectively. The results of the experiment indicated that combined application of inorganic fertilizer along with FYM, vermicompost and bio-fertilizer gave significantly improvements in growth parameters and productivity trend of wheat.

Keywords: Management, Productivity, Cropping system, Wheat

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