



## **Response of Wheat (*Triticum aestivum* L.) to Organic manure and Chemical fertilizer**

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### **ABSTRACT**

In order to study the impact of organic manure (Farmyard manure, Vermicompost), chemical fertilizer (NPK, Urea) and their combination on the growth, production and quality performance of wheat, an experiment was conducted under field conditions on black cotton soil by using Randomized block design (RBD) with three replications. A total of nine treatments using organic manure, chemical fertilizer and the integrated ones were used in order to find the optimum doses that would be successfully used for the better production and quality of the crop. The various parameters studied during the present investigation were; growth parameters (root length, shoot length, fresh weight, dry weight) which were studied at 15, 30, 45 and 60 days after sowing, yield attributes (number of spikes per plant, number of spikelets per spike, number of grains per spike, length of spike, hundred (100) grain weight) and yield. The results revealed that all the growth parameters were significantly enhanced in all the fertilizer treatments than the control ones and were more in the organic and integrated treatments than the chemical (inorganic) ones. Moreover the yield attributes and yield was significantly improved by the application of organic manure and integrated treatments than the inorganic fertilizers. Vermicompost along with NPK fertilizer registered maximum yield (2917 kg/ha) followed by the separate vermicompost treatment (2886 kg/ha) compared with the minimum yield (1462 kg/ha) observed in control. Among all the fertilizers vermicompost was most effective. The study concluded that application of organic manure (Vermicompost, Farmyard manure) along with NPK fertilizer is more helpful for the enhancement of growth and production of wheat as compared to separate use of organic manure and chemical fertilizer.

***Keywords: Vermicompost, Organic manure, Farmyard manure, NPK, Growth,***