

JOINT E-CONFERENCE ON RENEWABLE ENERGY AND SUSTAINABILITY & GEO SCIENCE AND GREEN TECHNOLOGY MARCH 15-16, 2023 | WEBINAR



Mehwish Nadeem

Mehwish Nadeem¹, Dr. Zubair Aslam², Wajeeh Ur Rehman², Muhammad Sajjad², Sabeela Yaqoob², Ahsan Jamil², Muhammad Saqlain², Muhammad Abdullah Saleem², Abid Shehzad², Mamoona Jamil³

¹ Department of Botany, Government College University, Faisalabad, Pakistan.

² Department of Agronomy, University of Agriculture, Faisalabad, Pakistan.

³ Center of Applied Biochemistry and Biotechnology, University of Agriculture, Faisalabad, Pakistan

Nutrient enrichment of vermicompost for soil improvement

Wheat (*Triticum aestivum*.L) is a great grain crop that is adversely affected by nutrient deficiency. The purpose of this research was to enrich the vermicompost with chemical fertilizer and analyze its impacts on wheat growth and soil fertility. A pot experiment was planned at the Student Research Farm, Department of Agronomy, University of Agriculture Faisalabad. The trial was organized in completely randomized design with three replications. The investigation was included 10 treatments i.e. T0= Control (with no vermicompost); T1= Vermicompost of pure FYM @ 5t/ha; T2= Vermicompost of FYM + urea 2% @ 5t/ha; T3 = Vermicompost of FYM + urea 4% @ 5t/ha; T4 = Vermicompost of FYM + NP 2% @ 5t/ha; T5= Vermicompost of FYM + NP 4% @ 5t/ha T6= Vermicompost of FYM + SOP 2% @ 5t/ha; T7= Vermicompost of FYM + SOP 4% @ 5t/ha; T8= Vermicompost of FYM + SSP 2% @ 5t/ha; T9= Vermicompost of FYM + SSP 4% @ 5t/ha. Parameters regarding soil fertility and the impact of vermicompost application on plant development and the bio-chemical and physical parameters of plants in response to the applied vermicompost were analyzed. The data for germination percentage (%), plant height (cm), number of leaves per plant, fresh seedling weight (g), dry seedling weight (g), shoot length, root length was observed highest in all other treatments as compared to control treatment T0. N, P, K level also increased as compared to control. The collected data was compared by using Least Significant difference (LSD) test at 5% probability level. Present study was helpful for screening the best vermicompost levels that can improve soil fertility and plant growth.