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Production of upland paddy (var. TRC-87-251) through application of vermicompost under field condition in Tripura, India

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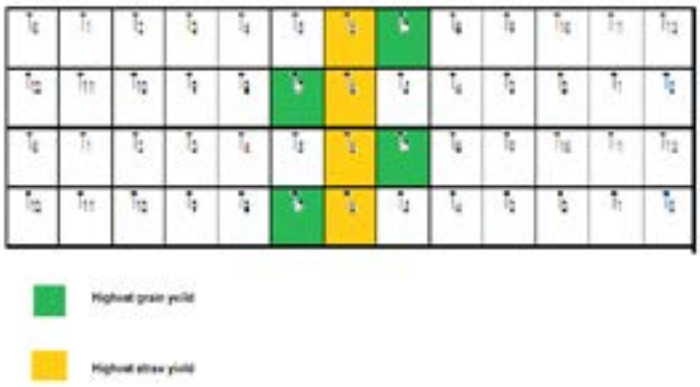
With fade out of the benefit of Green revolution, indiscriminate use of chemicals (pesticides and fertilizers) made the soil unproductive with loss of soil health. Paddy is the main food crop of India which following 1990 had a declining trend in production due to poor soil health. So the main aim of our study was to determine the optimum dose of vermicompost on the production of upland paddy (var. TRC-87-251). Vermicompost was obtained from worm- worked kitchen waste utilizing the earthworms, Perionyx excavatus. The field experiment was laid out in randomized block design technique (figure given below). The experimental plots received three different treatments i.e., different doses of vermicompost, the same doses of vermicompost along with recommended doses of NPK and only recommended doses of NPK. The control plot received neither NPK nor vermicompost. In total, there were 12 treatments marked as T0, T1, and T2… T11. For each treatment, four replications were made. The size of each experimental plot was 5 m^2 (2.5 m x 2.5 m). The different doses of VC were 2.5 ton/ha, 5 ton/ha, 10 ton/ha, 15 ton/ha and 20 ton/ha. Recommended doses of NPK=60 Kg N/ha, 30 Kg P/ ha, 30 Kg K/ ha in the form of urea, single super phosphate and muriate of potash respectively. Result showed that recommended doses of NPK along with 5 tonnes vermicompost/ha was at par with 10 tonnes of vermicompost/ha and led to significant increase in crop and straw production along with the uptake of nutrients. From this result, it could be deduced that in the soils of Tripura a minimum of 10 tonnes vermicompost or 5 tonnes of vermicompost plus recommended doses of NPK may bring significant increase in production of rice grain and straw respectively. The field trial was laid out in Randomized Block Design (RBD) technique comprising 12 treatments with 4 replications for each treatment as shown below image .



Biography

Gautam Bhattacharjee completed his MSc in Zoology from the prestigious institution Visva-Bharati University Shantiniketan, West Bengal India, founded by Rabindranath Tagore. He worked as a Senior Research Fellow in a project of Indian Council of Agriculture and Research, New Delhi, under the guidance of Dr. P S Chaudhuri one of the greatest earthworm scientist of recent times. A detail work on earthworms of Tripura was carried out by him for the first time in Tripura from 1997-2002. During his research work, he reported 21 species of earthworms out of which two species were reported for the first time from Tripura. Beside this an excellent work on reproductive studies of seven tropical earthworms were done by him. He also carried out vermiculture of rubber leaf litters. He received scholarship from Jawaharlal Nehru Memorial Fund, New Delhi. At present, he is working as an Assistant Professor of Zoology in a Government Degree College (Swami Vivekananda Mahavidyalaya, Tripura, India) and is engaged with research on earthworms and their coelomic fluid.

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