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Effects of enriched sewage sludge on soil urease activities

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Current increase in the considerable production of organic matter such as, waste sewage sludge has made their applications common on agricultural lands. Soil biological and biochemical properties can be influenced by organic matter application. As the effects of sewage sludge on biological process in soil have been questioned ,thus in the present study the effects of nitrogen and phosphorus enriched sewage sludge on urease activity were investigated. Different levels of sewage sludge (0 ,200 ,and 350 t/ha) were enriched by using nitrogen (0, 170, and 250 kg/ha) and phosphorus (0 and 150 kg/ha) fertilizers. This experiment was performed using a factorial model in a completely randomized design. Urease activity was measured calorimetrically in 578 nm. The results showed that application of sewage sludge and nitrogen fertilizer increased urease activity markedly within the first 15 days of incubation, although its activity dropped down sharply by the end of the experiment. Also, the results of phosphorus application showed a significant decrease in enzymes activities. Available amounts of zinc and lead in treatments increased gradually.

Keyword : Enzyme activity, Nitrogen, Phosphorus, Lead and Zinc

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