



## **Effects of enriched sewage sludge on alkaline phosphatase activity**

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Nowadays sewage sludge is increasingly used in agricultural lands and as there has not been any biological (especially enzymatic) research on the soil of Iran, so in this study the effect of sewage sludge enriched by nitrogen and phosphorous on alkaline phosphatase activity has been investigated. We studied the effects of adding different rates of (0, 200, 350 t.ha<sup>-1</sup>), nitrogen (0, 170, 250 kg.ha<sup>-1</sup> in the form of urea) and phosphorous (0, 150 kg.ha<sup>-1</sup> in the form of potassium phosphate) on C and 70% soil water°alkaline phosphatase activity in a clay loam soil in 25 holding capacity in a completely randomized design experiment with three replications. Addition of sewage sludge and nitrogen resulted in increasing alkaline phosphatase activity in soil after 30 days. Although its activity dropped down sharply by the end of the experiment. Also the study of heavy metals showed there was an increase in zinc and lead availability. It seems that addition of sewage sludge with high amount of available organic matter for enzyme has increased its activity and during incubation period it tended to decrease by environmental factors.

**Keyword :** Sewage Sludge ,Nitrogen, Phosphorous, Enzyme activity, Heavy metals