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Assessment of the effectiveness of certain remediation amendments usually applied in the bioremediation of soil irrigated with sewage effluent for extended periods through CO₂ evolution

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To sight see the bearings of the certain remediation amendments, usually applied in the bioremediation of soils irrigated with sewage effluent for extended periods, on the indigenous microbial population, a greenhouse experiment was conducted at NRC where the soil ecosystem was supplied with varied mineral remediation amendments and the CO₂ refluxes were followed up. In this study microbial activity through CO₂ efflux was used as an indicator to evaluate the effectiveness of eight amendments in minimizing the hazards of PTE's in soil ecosystem. Results showed that Ni and Zn were the most dominant contaminants that adversely influenced indigenous microbial activities in untreated soil, while Ni was the most persuasive. Results indicated that despite all trailed remediation amendments significantly minimized the hazards of Potential Toxic Elements (PTE's) in treated soil ecosystems; Modified bentonite (pro bentonite) was the best persuasive one. Mechanisms that took place between trailed remediation amendments and PTE's in studied soil ecosystems were discussed.

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