Third National Congress of Recycling and Reuse of Renewable Organic Resources in Agriculture
Islamic Azad University, Khorasgan Branch (Isfahan)
Agricultural Faculty, Waste and Wastewater Research Center
13-15 May 2008

Application of composted sewage sludge as a nutritional source for horticultural soils improvement

E. Derakhshan[1*], G. Bagherzadeh Ansari[2], M. Shafii Rahmani[1] and J. Khosravi [3]
1. M.Sc. Student of Agricultural Biotechnology, Natural Resource and Agricultural Sciences University of Ramin, Ahwaz
2. M.Sc. Student of Veterinary, Chamran University of Ahwaz
3. M.Sc. Student of Agri. Mechanization, Natural Resource and Agricultural Sciences University of Ramin, Ahwaz

Water deficit and soil degradation are some of the major problems for crop production in semi-arid regions. As a matter of fact, in these areas productivity decreased and risk of erosion is an important threat, especially with a horticultural use. Horticultural soils are highly vulnerable and prone to erosion, as vegetables are generally fast-growing species under intensive exploitation regimes. High-rate chemical inputs contribute degradation to horticultural soil and have a dramatic effect on soil microbial population and nutrient balance whilst, at the same time, have a counter-effect on price competitiveness of the vegetables to be commercialized. Increasing amounts of sewage sludge are generated every year during water treatment processes, thus its application on soils as compost can provide an economically acceptable method of disposal. In this paper we monitored variations in physical, chemical and biological properties of a plot where different quantities of compost were applied. The various experiences results indicated that application of compost had a positive effect on physical and biological properties of the soil and provides a supply of nutrients for vegetables growing under intensive exploitation regimes without any loss in biomass yield.

Keywords: Compost, Horticultural soils, Sewage sludge, Productivity, Nutrients

* Corresponding author Email: eliass_dr@yahoo.com