

عنوان مقاله:

The study of Gamma ray effects on Tehran municipal sewage sludge pathogens

محل انتشار:

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خلاصه مقاله:

The reuse of urban sewage water and sludge leads to its safe use in agriculture without pollution transfer risk into food chain or hazardous effects to public health. For this reason the reduction of fecal coliforms, fertile *Ascaris* ova and *Salmonella* in sewage sludge of Shahid-Mahallati wastewater treatment plant in Tehran – Iran were investigated after exposure to 10 kGy Gamma rays from ⁶⁰Co over a period of 3 months. The odour and the storage capability of samples were observed according to heterotrophic mesophilic bacteria after irradiation with 10, 25 and 50 kGy. The obtained results indicated that pathogens counts reduced to the extent permitted levels after irradiation by 10 kGy. Doses of 10, 25 and 50 kGy inhibited the regrowth of heterotrophic mesophilic bacteria for 15, 30 and 80 days respectively. The odours of irradiated samples reduced by increasing of dose in compared with control ones. According to the data, all applied doses could produce class A biosolid which means that it can be used for agricultural lands, public contact sites and even home gardens. If the sludge isn't used immediately after irradiation, the storage capability should be considered. Vector attraction reduction processes must be conducted before use

کلمات کلیدی:

sewage sludge, irradiation, *Ascaris*, pollution, storage, pathogens

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