

Heavy Metals Concentrations in Khomein Compost Factory Products

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ABSTRACT

Introduction: Nowadays, advancements in industries, technology and human welfare level have lead to accumulation of solid wastes and have endangered environmental health. Incorrect waste management intensifies this problem. Recycling and composting (transformation of organic waste to humus) are the most important ways in waste management. Health and safety of the compost is an important issue because presence of heavy metals and toxic organic compounds in compost can be toxic for human or plants. This study is conducted to determine the amount of heavy metals in products of Khomein Compost Factory, then the results are compared with the standards.

Material and methods: For sampling we created cutting halfway through the windrow in the five points (by tractor or hand spade). We selected 3 points in each cutting and took 5 samples from each point, weighing 1kg to 1.5kg. The samples were transferred to 20 liter containers and were mixed thoroughly.

Results: The mean of concentrations of lead, cadmium, mercury, and chromium in the compost samples in 18.2 ± 3.3 .

Conclusion: On the whole, the concentration of heavy metals in compost was within the standard limits. We can further decrease this toxic waste by processes such as source separation.

Key words: Waste, Compost, Heavy Metals

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