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

Urban compost bioassay: germination and seedling performance of cress, psyllium and cumin

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Application of urban compost to agricultural soil could help to solve municipalities problem related to the increasing production of wastes. compost has been identified as an alternative to fertilizer to increase soil fertility and crop production. In this study germination in vitro and in sand/compost mixture of cress, psyllium and cumin were evaluated. The aqueous extracts of compost strongly inhibit plant germination and root growth. The GI values obtained for compost extracts were low, when compared with that of the control. Latent toxicity of compost for different plant species seemed not to be severe. However, when cress, psyllium, were germinated in a sand/compost mixture (25/75 and 50/50), germination of cress was completely inhibited, with a sever reduction of the psyllium and cumin root growth. To avoid negative effects of compost on crop, routine germination bioassay should be included in education program for farmers. This showed enhance marketing and consumer acceptance of urban composts.

Keywords: Refuse compost, Germination, Bioassay, Cress, Cumin, Germination index

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