Pesticide Degradation By Microbes Under Modified Soil Conditions. (S03-eivazi085203-Poster)

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Abstract:

Pesticides and other anthropogenic pollutants once introduced into the environment are subjected to biological and nonbiological transformation processes. The microbial metabolism is the primary force in pesticide transformation or degradation. A variety of methods, biological, chemical, and physical have been used for degradation and detoxification of pesticides. Use of biobed to contain and biodegrade pesticides may be a cost-effective alternative. A biobed is an in-ground treatment unit designed to contain spills of pesticides and destroy the chemicals through microbiological activity. The capacity of differnet mixtures of top soil, peat, and straw to degrade herbicides such as glyphosate, atrazine, acetochlor, and metolachlor was tested under laboratory conditions. The herbicide-degrading potential of the biobed substrate mixtures was determined by analyzing sub-samples to measure residual herbicide concentrations. The Ohmicron RPA portable photometer and appropriate reagent kits were used to measure herbicide residues.The degradation of all the tested herbicides was rapid and extensive.

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