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Influence of cadmium and glucose on soil microbial communities

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Abstract

© 2015 Aliya Gilmullina, Polina Galitskaya and Svetlana Selivanovskaya. A laboratory-based simulation of exposure of the soil community in a gray forest soil to cadmium and glucose has been conducted. It was established that while growing in a fertile medium microbial communities isolated from a soil sample contaminated with cadmium have a substantially increased phase of growth delay and there is a reduction in total growth. While analyzing communities by Biolog Ecoplate method, it was found that, as compared to the community isolated from a soil rich in glucose, the community in a soil with cadmium is characterized by significantly lower AWCD, R and H indices, in which the differences increase with time of incubation. Also differences in the pattern and rate of recyclable substrates have been revealed. The resulting data suggest changes in the functional activity of the microbial community in the soil under the influence of cadmium.

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Keywords

Biolog ecoplate, Cadmium, Glucose, Soil