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## INFLUENCE OF THE *Nocardia sp.* C-14-1 REMEDIATION ON THE GROWTH OF POTTED PLANTS IN CONTAMINATED SOIL AND ON MICROORGANISM BIO-DIVERSITY

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### Abstract

The combination method of culture and PCR-DGGE technique is applied for a preliminary study of the diversity of the different contaminated soil. The bacteria DNA of the soil was extracted and used for PCR-DGGE analysis. The results show the plant height, total weight and florescence of two tested plant, inhibited by adding phenol or hexadecane in the soil. There are significant differences between test groups which add contaminants and control group, and no significant differences between test groups which add contaminants with C-14-1 remediation and control group. Thus, the degrading bacterium has a certain bioremediation capacity. Biodiversity of soil by adding contaminants is impacted and the number of species in adding phenol group is 42. It is obviously lower than that 58 of control group and testing group by adding contaminants with C-14-1. The number of species of soil by adding phenol is lower than the added hexadecane, and the biotoxicity of phenol is higher than hexadecane. Shannon-Weaver index is well consistent with the number of species. The value of Shannon-Weaver index of the group is minim of all the test groups by adding phenol is 3.40.

*Key words:* bioremediation, contaminated soil, PCR-DGGE, potted plants, Shannon-weaver index

*Received:* March, 2011; *Revised final:* July, 2011; *Accepted:* July, 2011

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