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Impacts of Pesticides on Soil and Environment

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Message from the Guest Editor

The extensive use of pesticides over last several decades has highlighted the potential risk posed by pesticides to the soil environment. An increasing proportion of arable soils have been reported to be contaminated with pesticides, to varying degrees. Soil contamination with pesticides influences non-target species including humans by affecting soil microbial populations, bacterial diversity, nitrogen transformations, soil animals, and soil enzymes, ultimately influencing entire agricultural ecosystems. However, the research on mechanisms of pesticide effects on non-target organisms and ecosystems is still insufficient. The fate of pesticides in the environment is affected by chemical, physical, biological, and hydro-meteorological processes in soil. The major environmental processes related to pesticides are transport, degradation, and uptake by organisms. The remediation of contaminated soil is also a focus of current research. Research suggests that physical, chemical, and biological techniques as well as combined techniques for the removal of contaminants can be used to remediate polluted soil. We expect more scientific discoveries and solutions to be proposed in the future.

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Message from the Editor-in-Chief

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