Special Issue

Advanced Research of Rhizosphere Microbial Activity —Series II

Message from the Guest Editors

The rhizosphere is one of the most important hotspots in soils and it harbors a huge number of microbial species. Root exudates serve as carbon and energy sources for heterotrophic microbes and have selective power to shape the microbial communities around root systems. The microbial activity of the rhizosphere can be one or two orders of magnitude higher than that of the surrounding bulk soil, and it is also a very dynamic and sensitive system. Microbes in the rhizosphere can aid plant nutrition and water uptake and promote plant growth by hormone and siderophore production; in addition, they can protect plants against pathogenic microbes, while in certain conditions some of them also become pathogenic. Climate change, land use change and different management options pose challenges to evaluating soil health in connection with plant–microbe interactions, and the microbial activity of the rhizosphere can be detected and measured in several ways. This Special Issue welcomes newly developed methods and other methodical approaches focusing on the microbial activity of the rhizosphere in all types of agricultural soils, including grassland and pasture soils.

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