



## Biochar Based Fertilizers in Agriculture: Soil-Plant Interactions and Functions

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### Message from the Guest Editors

As a recent development in biochar technology in agriculture, biochar-based fertilizers are increasingly developed and applied in crop and food production worldwide. Biochar-based fertilizers include biochar-based organic fertilizers/soil amendments, biochar mixed mineral fertilizers and biochar blended N (urea) fertilizer and N-P-K compound fertilizers, as well as biochar-carried/enhanced biological fertilizers. These biochar-based fertilizers are known to increase nutrient use efficiency and plant responses while reducing N<sub>2</sub>O emissions, in addition to soil C accrual, in croplands. However, much remains to be discovered, as biochars are increasingly produced using various types of feedstock biowaste, and these fertilizers are applied in various land uses, soil types, climate conditions and crop types (cereals, legumes and vegetable/fruits).

This Special Issue will discuss biochar-based fertilizers' agronomic effects (productivity, quality and growth performance) and their ability to improve soil-microbe-plant-root interactions and plant nutrition (nutrient availability and use efficiency). It will focus on plant responses to biochar-based fertilizers (root traits, leaf activity and metabolic functions), and will also address plant-environment relations regarding plants' resilience to climate stress and their tolerance to soil-borne diseases. We also welcome papers on technology for designing, manufacturing and characterizing novel biochar-based fertilizers, and on the environmental, socioeconomic and ethnic aspects of using biochar-based fertilizers.





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## Message from the Editor-in-Chief

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