

Special Issue on

The Effects of Soil Contaminant and Plant Interactions on Crop Production

CALL FOR PAPERS

Climate change has increased the severity of environmental stresses, with soil and plants exposed to numerous abiotic stresses on a global scale that reduce plant quality and productivity. In order to increase plant output and quality, it is crucial to understand the mechanisms of how the physical and chemical properties of soil change and how this impacts plant production, in addition to understanding the coping mechanisms plants have evolved to handle such situations. For a better understanding of stress tolerance mechanisms, it is necessary to investigate soil properties and changes that occur in the plant in addition to numerous physiochemical responses.

Heavy metals, microplastics, and other stresses have caused increasingly noticeable alterations in agricultural soil. Soil is a non-renewable natural resource that needs to be managed carefully if sustainable agricultural production is to be accomplished. However, agricultural activity is to blame for a growing level of microplastic soil contamination, negatively impacting the health of the soil. The contamination of these stressors has resulted in negative changes in the soil profiles which in turn effects the metabolomic profiling of the crop. The soil environment has changed as a result of the cumulative inhibitory impacts of these factors, damaging agricultural productivity and ecosystem health.

This Special Issue aims to gather studies regarding soil contaminants that influence crops, in order to combat the effects of microplastics, translocation, and potentially toxic elements along the soil-plant system, as well as the interactive effects of soil and microplastics, heavy metals, and other contaminants on the productivity of the crop. Also of interest is research into the assessment, validation, and application of original analytical methods to soil samples for the determination of microplastic and other heavy metals in soil and crops, and risk assessments associated with different contaminants in the soil, such as microplastics or heavy metals, and stress-related treatments in crops. We welcome both original research and review articles.

Potential topics include but are not limited to the following:

- ▶ Microplastics and their effects on soil-plant interactions
- ▶ Nutrient management in contaminated soils
- ▶ Omics technologies and soil contaminant assessment
- ▶ Sustainable utilization of bioremediation strategies
- ▶ Phytoremediation-based heavy metals management
- ▶ Crop genomics for contaminant resistance
- ▶ Gene editing techniques
- ▶ Biological control of soil-borne pathogens
- ▶ Plant-microbe interactions
- ▶ Transgenic crops for enhanced contaminant tolerance
- ▶ Environmental impact assessments

Authors can submit their manuscripts through the Manuscript Tracking System at <https://review.wiley.com/submit?specialIssue=991260>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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