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Special Issue: Natural and Anthropogenic Origin Selenium in the Context of Plants
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Summary

Dear Colleagues,

Selenium is essential for humans. There is growing evidence that the adequate quantity and quality of selenium supply supports the cognitive and immune function; it also reduces susceptibility to infections, including virus infections and cancer. Considering today’s serious coronavirus pandemic, the importance of selenium can be further appreciated. Plants have a special position in selenium chemistry. Although the Se essentiality to higher plants is still under argument, several plants can uptake different inorganic Se forms and convert more bioavailable organic forms. Therefore, selenium fortification by conventional crop breeding or genetic engineering as well as agronomical tools in an open or closed system can be beneficial not only for humans or farm animals but also for plants themselves.

This Special Issue of Plants will cover the plants–selenium context illuminated from several aspects. Selenium-induced alterations in phytochemical composition of plants, molecular mechanisms of plant biological changes responding to selenium eustress or distress, antagonism between Se and other nutrients in growth media, Se speciation with different plant tissues, and transformation of different Se forms in soil via soil biota will be investigated. Additionally, the Special Issue invites submissions on topics related to ecological and economic aspects of crop selenium fortification and remediation.

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Keywords: crops; selenium analytics; selenium deficiency; xenohormesis; physiology; selenium biotransformation; selenium fortification; selenium economy; selenium ecology