Special Issue

Role of Iron in Plant Nutrition, Growth and Metabolism

Message from the Guest Editors

Limited iron (Fe) availability in soil is one of the main factors affecting yield and quality of agricultural productions. Fe deficiency induces several mechanisms in soil organisms including the release of exudates to increase the solubility of poorly available Fe pools and trigger chemical, biochemical, and physical interactions in the rhizosphere. Fe deficiency impairs plant ionome, as synergisms and/or antagonisms among elements occur in the plant–soil system. Fe speciation is crucial, and influences gene regulation, metabolic activity and elements distribution in plant cells and tissues. This Special Issue focuses on: (i) rhizosphere processes driving Fe availability; (ii) plant–soil–microorganisms interactions; (iii) nutrients interactions in soil and plant triggered by Fe shortage; (v) Fe fertilizers to enhance Fe availability and acquisition, including aspects of biofortification; (vi) innovative analytical methods for Fe quantification and speciation in soil and plants.

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