



plants



Special Issue Reprint

Advances in Plant Sulfur Research

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As an essential nutrient for plant growth and development, sulfur (S) deficiency in productive systems limits yield and quality. This Special Issue hosts a collection of original research articles, focusing on the following topics: (1) The germinative and post-germinative behavior of Brassica napus seeds when severe S limitation is applied to the parent plants; (2) the independence of S-deficiency from the mRNA degradation initiation enzyme PARN in Arabidopsis; (3) the glucosinolate distribution in the aerial parts of sel1-10, a disruption mutant of the sulfate transporter SULTR1;2, in mature Arabidopsis thaliana plants; (4) the accumulation of S-methylcysteine as its γ -glutamyl dipeptide in Phaseolus vulgaris; and (5) the role of ferric iron chelation-strategy components in the leaves and roots of maize, have provided new insights into the effect of S availability on plant functionality. Moreover, the role of S deficiency in root system functionality has been highlighted, focusing on (6) the contribution of root hair development to sulfate uptake in Arabidopsis, and (7) the modulation of lateral root development by the CLE-CLAVATA1 signaling pathway under S deficiency. The role of S in plants grown under drought conditions has been investigated in more detail focusing (8) on the relationship between S-induced stomata closure and the canonical ABA signal transduction machinery. Furthermore, (9) the assessment of S deficiency under field conditions by single measurements of sulfur, chloride, and phosphorus in mature leaves, (10) the effect of fertilizers enriched with elemental S on durum wheat yield, (11) the impact of elemental S on the rhizospheric bacteria of durum wheat enhancing the scientific knowledge of S nutrition under field conditions.



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