



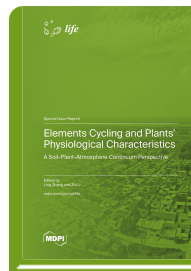
Special Issue Reprint

Elements Cycling and Plants' Physiological Characteristics

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ISBN 978-3-7258-5627-5 (Hardback)
ISBN 978-3-7258-5628-2 (PDF)



This Reprint, entitled “Elements Cycling and Plants' Physiological Characteristics: A Soil–Plant–Atmosphere Continuum Perspective”, presents a collection of innovative research and a comprehensive review exploring the intricate dynamics of biogeochemical cycles and their profound influence on plant physiology. The studies within this volume investigate the critical interfaces between the soil, plants, and the atmosphere, addressing fundamental questions in plant adaptation and ecosystem functioning. Topics covered include nutrient acquisition and utilization strategies under deficiency, such as phosphorus stress in woody plants, plant defense mechanisms and physiological resilience to seasonal environmental changes, the impact of land use conversion on soil microbial communities, and advanced methodologies for assessing phytomass and carbon sequestration. The Reprint also delves into sustainable agricultural practices, including the circular utilization of organic waste as bio-nutrients and the application of spent mushroom substrate-derived biochar. Furthermore, it explores the limits of life through the resilience of microorganisms to extreme atmospheric conditions. By integrating molecular, physiological, ecological, and remote sensing approaches, this Reprint provides a holistic understanding of plant responses within the continuum of elemental cycles. It serves as a valuable resource for researchers, ecologists, agronomists, and environmental scientists who are interested in plant–environment interactions and sustainable ecosystem management.



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