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Titolo	Harnessing Sesuvium Portulacastrum for Biosaline Agriculture / / edited by Suprasanna Penna, Ganesh Chandrakant Nikalje
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ISBN	981-9633-07-9
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (XVI, 223 p. 21 illus., 17 illus. in color.)
Disciplina	630
Soggetti	Agriculture Agricultural biotechnology Agronomy Agricultural Biotechnology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	1. Potentials of Sesuvium portulacastrum (L.) L. in Biosaline Agriculture -- 2. Taxonomy, Geographical Distribution, and Evolutionary Dynamics of Sesuvium portulacastrum (L.) L. -- 3. Biology and Ecophysiological studies in Sesuvium portulacastrum (L.) L. -- 4. Anatomical characteristics of Sesuvium portulacastrum (L.) L.: their possible relevance and relationship with phenotypic plasticity -- 5. Physiological and biochemical modulations of environmental stress adaptation in Sesuvium portulacastrum (L). L. -- 6. Salinity and heavy metals – working together for tolerance in Sesuvium portulacastrum (L.) L. -- 7. Exploring Salt Tolerance Genes in Sesuvium portulacastrum (L.). L.: A Journey from Transcriptomics to Genomics -- 8. Metabolomic and proteomic insights of salt adaptation in the halophyte Sesuvium portulacastrum (L.) L. -- 9. Exploring the microbial diversity of Sesuvium portulacastrum (L.) L. and its applications in biosaline agriculture -- 10. Phytodesalination Potential of Sesuvium portulacastrum (L.) L.: Anatomical, Physiological, and Biochemical traits -- 11. Success stories of Bio saline Agriculture -- 12. Progress updates in Sesuvium portulacastrum in the present-day era: challenges and projections.
Sommario/riassunto	This edited book provides a detailed and comprehensive overview of

the stress adaptation and utilization of the halophyte Sesuvium portulacastrum in bio-saline agriculture. The book focuses on plant's defense mechanisms to various abiotic stresses, including salt, drought, toxic metals, dyes, effluents, and nutrient deficiency. The book highlights the potential applications of S. portulacastrum in environmental protection, such as, desalination, and phytoremediation. One of the key features of the book is its exploration of the adaptation mechanisms of S. portulacastrum to environmental stresses at morphological, anatomical, physiological, biochemical, molecular, proteomic, and metabolomic levels. This in-depth analysis provides a comprehensive understanding of how Sesuvium withstands harsh environments and, this could potentially serve as a model for investigations on other plants and in developing salt tolerant plants. The book also provides directions for utilizing S. portulacastrum in bio-saline agriculture. The book is a valuable resource for researchers, agronomists, and policymakers interested in developing sustainable agriculture practices in regions affected by salinity and other environmental stresses.