

1. Record Nr.	UNINA9910731487003321
Titolo	Gasotransmitters Signaling in Plant Abiotic Stress : Gasotransmitters in Adaptation of Plants to Abiotic Stress // edited by Mehar Fatma, Zebus Sehar, Nafees A. Khan
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2023
ISBN	3-031-30858-1
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (230 pages)
Collana	Signaling and Communication in Plants, , 1867-9056
Disciplina	572.82
Soggetti	Botany Agriculture Plants Stress (Physiology) Plant Science Plant Signalling Plant Stress Responses
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Gasotransmitters signaling in plants under abiotic stress: An overview -- Influence of gasotransmitters on the physiology of plants with respect to abiotic stress tolerance -- Gasotransmitters and omics for abiotic stress tolerance in plants -- Advancement in the biology of gasotransmitters: H ₂ S, NO, and ethylene -- Hydrogen sulfide: An evolving gasotransmitter regulating salinity and drought stress response in plants -- Ethylene synthesis and redox homeostasis in plants: Recent advancement -- Nitric oxide and cellular redox homeostasis in plants -- The function of hydrogen sulfide in plant responses to salinity and drought: new insights -- Hydrogen peroxide and its role in abiotic stress tolerance in plants -- Interaction of ethylene and H ₂ S in plant stress management.
Sommario/riassunto	This book deals with the gasotransmitters signaling in redox reactions and homeostasis for the adaptation of plants to unfavorable abiotic stress environments. There are lots of interesting chapters in this book

that cover both research and educational objectives. This book serves as a reference illustrated book for all who are interested in the regulation of gasotransmitters and redox homeostasis in agriculture. Maintenance of redox homeostasis strengthens the potentiality of plants to resist abiotic stress conditions through the enhanced antioxidant system and the subsequent impact on other signaling molecules. The book presents novel outcomes and implications in plant biology concerning the study of different types of gasotransmitters signaling such as nitric oxide (NO), ethylene, hydrogen sulfide (H₂S), etc. under diverse abiotic stresses in one place. The chapters of the book discuss the recent progress and current perspectives on the role of gasotransmitters relevance to plant functions and adaptations to abiotic stresses, the influence of gasotransmitters on the physiology of plants with respect to abiotic stress tolerance, gasotransmitters and omics for abiotic stress tolerance, advancement in the biology of gasotransmitters in regulating salinity and drought stress response in plants, new insights of gasotransmitters and cellular redox homeostasis in plants and the chapter also deliberate the emerging role of gasotransmitters in regulating redox homeostasis for plant stress management. This book is the first comprehensive book covering all aspects and advancements in the biology of gasotransmitters in redox homeostasis conferring different abiotic stress tolerance, from which readers from all backgrounds can get benefitted. This book will appeal to researchers, students, scientific societies, agriculturists, etc.
