

1. Record Nr.	UNINA9910495173003321
Titolo	Hydrogen Sulfide and Plant Acclimation to Abiotic Stresses // edited by M. Nasir Khan, Manzer H. Siddiqui, Saud Alamri, Francisco J. Corpas
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2021
ISBN	3-030-73678-4
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (241 pages)
Collana	Plant in Challenging Environments, , 2730-6208 ; ; 1
Disciplina	582.019214
Soggetti	Botany Stress (Physiology) Plants Botanical chemistry Plant biotechnology Agriculture Plant Science Plant Stress Responses Plant Signalling Plant Biochemistry Plant Biotechnology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1. Hydrogen sulfide on the crossroad of regulation, protection, interaction and signaling in plant systems under different environmental conditions -- Chapter 2. Hydrogen sulfide: A road ahead for abiotic stress tolerance in plants -- Chapter 3. Functional interaction of hydrogen sulfide with nitric oxide, calcium, and reactive oxygen species under abiotic stress in plants -- Chapter 4. Hydrogen sulfide and redox homeostasis for alleviation of heavy metal stress -- Chapter 5. Effect of hydrogen sulfide on the osmotic adjustment of plants under different abiotic stresses -- Chapter 6. Hydrogen sulfide and stomatal movement -- Chapter 7. Hydrogen sulfide and fruit ripening -- Chapter 8. Hydrogen sulfide impact on seed biology under abiotic stress -- Chapter 9. Hydrogen sulfide signaling in the defense

response of plants to abiotic stresses -- Chapter 10. A transcriptomic and proteomic view of hydrogen sulfide signaling in plant abiotic stress -- Chapter 11. Cysteine and hydrogen sulfide: a complementary association for plant acclimation to abiotic stress -- Chapter 12. Hydrogen sulfide and posttranslational modification of proteins: a defense strategy against abiotic stress.

Sommario/riassunto

This book focuses on the role of hydrogen sulfide in the protection of plants against abiotic stresses and abiotic stress-induced complications by the way of converging advanced key methods of proteomics, genomics, and metabolomics. It provides an update on the biosynthesis, signaling, and mechanism of action of hydrogen sulfide in combating abiotic stresses in plants. Also, special emphasis is given to the interaction of hydrogen sulfide with other signaling molecules (such as nitric oxide, carbon monoxide, hydrogen peroxide etc.), phytohormones, mineral nutrients, ions, and ion channels in plants. This work, uniquely, covers key aspects of hydrogen sulfide signaling in relation to abiotic stresses in plants, including programmed cell death, stomatal movement, and fruit ripening.