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Soggetti	Plant breeding Oxidative stress Plant physiology Botanical chemistry Plant ecology Plant Breeding/Biotechnology Oxidative Stress Plant Physiology Plant Biochemistry Plant Ecology
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Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	- Plants Stress Responses to Drought: Physiological, Biochemical and Molecular Basis -- Photosynthesis and Abiotic Stress in Plants -- Ecotoxicological effects of insecticides in plants assessed by germination and other phytotoxicity tools -- Variation in Plant Bioactive Compounds and Antioxidant Activities under Salt Stress -- Response of plants to salinity stress and the role of salicylic acid in modulating tolerance mechanisms: physiological and proteomic approach -- The role of beneficial elements in triggering adaptive responses to environmental stressors and improving plant performance -- Plant adaptation to stress conditions: the case of Glutathione S-transferases (GSTs) -- Phosphite as an inductor of adaptive responses to stress and stimulator of better plant performance -- Nitric oxide and reactive oxygen species interactions in plant tolerance and adaptation to stress

factors -- Involvement of Reactive Species of Oxygen and Nitrogen in Triggering Programmed Cell Death in Plants -- Progress and prospects in Capsicum breeding for biotic and abiotic stresses -- MicroRNA (miRNA) and Small interfering RNA (siRNA) - Biogenesis and functions in plants -- Bryomonitoring of Environmental Pollution -- Bioinformatics resources for the stress biology of plants.

Sommario/riassunto

This book highlights some of the most important biochemical, physiological and molecular aspects of plant stress, together with the latest updates. It is divided into 14 chapters, written by eminent experts from around the globe and highlighting the effects of plant stress (biotic and abiotic) on the photosynthetic apparatus, metabolites, programmed cell death, germination etc. In turn, the role of beneficial elements, glutathione-S-transferase, phosphite and nitric oxide in the adaptive response of plants under stress and as a stimulator of better plant performance is also discussed. A dedicated chapter addresses research advances in connection with Capsicum, a commercially important plant, and stress tolerance, from classical breeding to the recent use of large-scale transcriptome and genome sequencing technologies. The book also explores the significance of the liliputians of the plant kingdom (Bryophytes) as biomonitors/bioindicators, and general and specialized bioinformatics resources that can benefit anyone working in the field of plant stress biology. Given the information compiled here, the book will offer a valuable guide for students and researchers of plant molecular biology and stress physiology alike.