1. Record Nr. UNINA9910830661303321 Managing plant stress using salicylic acid: physiological and molecular Titolo aspects / / edited by Anket Sharma [and four others] Pubbl/distr/stampa Hoboken, New Jersey:,: Wiley,, [2023] ©2023 **ISBN** 1-119-67110-8 1-119-67108-6 1-119-67109-4 Descrizione fisica 1 online resource (355 pages) Disciplina 630.2/515 Soggetti Plant growth promoting substances Salicylic acid Crops and climate Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Cover -- Title Page -- Copyright Page -- Contents -- List of Contributors -- Preface -- Chapter 1 Salicylic Acid: A Regulator of Plant Growth and Development -- Introduction -- Salicylic Acid and Plant Growth -- Salicylic Acid and Photosynthesis -- Salicylic Acid and Respiration -- Salicylic Acid and Abiotic and Biotic Stress --Conclusions -- References -- Chapter 2 Salicylic Acid-Mediated Regulation of Plant Biology: An Omics Approach -- Introduction --Programmed Cell Death (PCD) -- SA as a Plant Growth Regulator -- SA and Stresses -- Resistance of Plants to Diseases -- Proteome Analysis -- Transcriptome Analysis -- Genome Analysis -- Conclusion -- Note -- References -- Chapter 3 Regulation of Plant Primary Metabolism by Salicylic Acid Under Abiotic Stress -- Introduction -- Primary Metabolism Regulation -- Respiration -- Photosynthesis -- Flowering -- Seed Germination -- Senescence -- Plant Growth -- Pathogenesis -- Nutrient Uptake -- SA Mediation and Abiotic Stress Tolerance Regulation -- Salinity Stress Tolerance Regulation -- Drought Stress Tolerance Control -- Temperature Constraint Tolerance Monitoring --

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"Different forms of environmental stresses like salinity, drought, high or low temperature, heavy metal/metalloid, UV, high light intensity and nutrient deficiency inflict major damage to crop plants leading to a massive decrease in crop yield and productivity. This book will highlight the tremendous potential of treating plants with salicylic acid, either prior to or during stress, in lowering oxidative damages and causing enhanced tolerance during stress conditions. The latest research on the ability of salicylic acid in reducing the effects of abiotic stresses in different crop species, together with their mechanism of action at the biochemical and molecular level will be emphasized. Such documentation of salicylic acid roles will stimulate further research towards fully exposing their way of action, which, in turn, would be of great significance for plant stress physiology research. In addition, focusing on specific challenges and opportunities related to the exogenous application or priming technology, such as the mode of application, new methodologies and the potential impacts of salicylic acid on the environment, would result in the optimum and rapid establishment of this technology as a tool in crop stress management. This book will foster further interests for researchers, academicians and scientists worldwide, working in the field of salicylic acid mediated plant responses in plants under challenging environments and abiotic stress tolerance"--