Record Nr. UNINA9910350352903321 Salt Stress, Microbes, and Plant Interactions: Causes and Solution: **Titolo** Volume 1 / / edited by Mohd Sayeed Akhtar Pubbl/distr/stampa Singapore:,: Springer Singapore:,: Imprint: Springer,, 2019 **ISBN** 981-13-8801-6 Edizione [1st ed. 2019.] Descrizione fisica 1 online resource (xvii, 297 pages): illustrations Disciplina 631.416 Soggetti Plant physiology Oxidative stress Microbial ecology Plant biochemistry Sustainable development Plant Physiology Oxidative Stress Microbial Ecology Plant Biochemistry Sustainable Development Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Chapter 1. Global concern for salinity on various agro-ecosystems --Chapter 2. Potentiality of plant growth promoting rhizobacteria in easing of soil salinity and environmental sustainability -- Chapter 3. Use of Plant Hormones for the Improvement of Plant Growth and Production under Salt Stress -- Chapter 4. Plant growth regulators and salt stress: Mechanism of tolerance trade off -- Chapter 5. Impact of plant microbe interactions on plant metabolism under saline environment -- Chapter 6. Plant survival and tolerance under high salinity conditions: Primary and secondary cell wall sensing mechanism

-- Chapter 7. Field Application of Rhizobial Inoculants in Enhancing Faba bean Production in Acidic Soils: An Innovative Strategy to Improve Crop Productivity -- Chapter 8. Heavy Metal Stress and Tolerance in Plants Mediated by Rhizospheric Microbes -- Chapter 9. Use of

Nanoparticles in Alleviating Salt Stress -- Chapter 10. Soil-Plant and Microbial Interaction in Improving Salt Stress -- Chapter 11. Plants Growing Under Salinity Stress can be Eased Through Mycorrhizal Association -- Chapter 12. Halophilic microbe interactions with plants to mitigate salt stress -- Chapter 13. Effect of Salinity on the Nutrients and Plant Health.

Sommario/riassunto

This book offers an overview of salt stress, which has a devastating effect on the yields of various agricultural crops around the globe. Excessive salts in soil reduce the availability of water, inhibit metabolic processes, and affect nutrient composition, osmotic balance, and hydraulic conductivity. Plants have developed a number of tolerance mechanisms, such as various compatible solutes, polyamines, reactive oxygen species and antioxidant defense mechanisms, ion transport and compartmentalization of injurious ions. The exploitation of genetic variation, use of plant hormones, mineral nutrients, soil microbe interactions, and other mechanical practices are of prime importance in agriculture, and as such have been the subject of multidisciplinary research. Covering both theoretical and practical aspects, the book provides essential physiological, ecological, biochemical, environmental and molecular information as well as perspectives for future research. It is a valuable resource for students, teachers and researchers and anyone interested in agronomy, ecology, stress physiology, environmental science, crop science and molecular biology. .