1. Record Nr. UNINA9910253869203321

Titolo	Plant Growth Promoting Actinobacteria : A New Avenue for Enhancing the Productivity and Soil Fertility of Grain Legumes / / edited by Gopalakrishnan Subramaniam, Sathya Arumugam, Vijayabharathi Rajendran
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2016
ISBN	981-10-0707-1
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (310 p.)
Disciplina	570
Soggetti	Agriculture Microbiology Microbial ecology Botanical chemistry Microbial Ecology Plant Biochemistry Applied Microbiology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	1. Direct Plant Growth-Promoting Ability of Actinobacteria in Grain Legumes -- 2. Indirect Plant Growth-Promotion in Grain Legumes: Role of Actinobacteria -- 3. Enhancing Soil Health and Plant Growth: Promotion by Actinomycetes -- 4. Recent Advancement in the Development of Bio-Pesticides by Actinomycetes for the Control of Insect Pests -- 5. Actinomycetes Bio-Inoculants: A Modern Prospectus for Plant Disease Management -- 6. Managing Pests and Diseases of Grain Legumes with Secondary Metabolites from Actinomycetes -- 7. Role of Secondary Metabolites of Actinomycetes in Crop Protection -- 8. Endophytic Actinobacteria: Nitrogen Fixation, Phytohormone Production and Antibiosis -- 9. Role of Endophytic Actinomycetes in Crop Protection: Plant Growth-Promotion and Biological Control -- 10. Synergy of Actinomycetes Co-inoculation -- 11. Role of ACC Deaminase in Stress Control of Leguminous Plants -- 12. Induction of Systemic Resistance in Crop Plants against Plant Pathogens by Plant

Growth-Promoting Actinomycetes -- 13. Actinomycetes as Mitigators of Climate Change and Abiotic Stress -- 14. Perspectives of Plant Growth-Promoting Actinomycetes in Heavy Metal Phytoremediation -- 15. Role of Actinomycetes Mediated Nano-System in Agriculture -- 16. Use of Genomic Approaches in Understanding the Role of Actinomycetes as PGP in Grain Legumes -- 17. Exploration of Plant Growth-Promoting Actinomycetes for Biofortification of Mineral Nutrients -- 18. Evaluation of Plant Growth-Promoting Actinomycetes on Vigna -- 19. Plant Growth-Promoting Actinomycetes: Mass Production, Delivery Systems and Commercialization.

Sommario/riassunto

Global yields of legumes have been relatively stagnant for the last five decades, despite the adoption of conventional and molecular breeding approaches. The use of plant growth-promoting (PGP) bacteria for improving agricultural production, soil and plant health has become one of the most attractive strategies for developing sustainable agriculture. Actinomycetes are bacteria that play an important role in PGP and plant protection, produce secondary metabolites of commercial interest, and their use is well documented in wheat, rice, beans, chickpeas and peas. In order to promote legumes, the general assembly of the UN recently declared 2016 the “International Year of Pulses.” In view of this development, this book illustrates how PGP actinomycetes can improve grain yield and soil fertility, improve control of insect pests and phytopathogens, and enhance host-plant resistance. It also addresses special topics of current interest, e.g. the role of PGP actinomycetes in the biofortification of legume seeds and bioremediation of heavy metals.