

1. Record Nr.	UNINA9910253873203321
Titolo	Microbial Inoculants in Sustainable Agricultural Productivity [[electronic resource]] : Vol. 1: Research Perspectives / / edited by Dhananjaya Pratap Singh, Harikesh Bahadur Singh, Ratna Prabha
Pubbl/distr/stampa	New Delhi : , : Springer India : , : Imprint : Springer, , 2016
ISBN	81-322-2647-X
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (354 p.)
Disciplina	632.9
Soggetti	Microbial genetics Microbial genomics Microbial ecology Agriculture Microbial Genetics and Genomics Microbial Ecology
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. Strategies for Characterization of Agriculturally Important Bacteria -- 2. Microbial Inoculants as Agents of Growth Promotion and Abiotic Stress Tolerance in Plants -- 3. A Renaissance in Plant Growth Promoting and Biocontrol Agents by Endophytes -- 4. Omics-driven Approaches in Plant-Microbe Interaction -- 5. Strategies for Taxonomical Characterization of Agriculturally Important Microorganisms -- 6. Microbial Inoculants: Identification, Characterization and Applications in the Field -- 7. Endophytic Microbes in Crops: Diversity and Beneficial Impact for Sustainable Agriculture -- 8. Exploiting PGPR and AMF Biodiversity for Plant Health Management -- 9. Biopesticides: An Ecofriendly Approach for the Control of Soil-borne Pathogens in Peanut -- 10. Strategies for High Density Cultivation of Bio-inoculants in Submerged Culture with Special Reference to Pseudomonads -- 11. Microbial Inoculants as Biofertilizers and Biopesticides -- 12. Seed Bio-priming for Biotic and Abiotic Stress Management -- 13. Azotobacter - PGPR Activities with Special Reference to Effect of Pesticides and Biodegradation -- 14. Beneficial

effects and molecular diversity of endophytic bacteria in legume and non legumes -- 15. *Pseudomonas fluorescens*: A promising biocontrol agent and PGPR for sustainable agriculture -- 16. Isolation, Characterization of Nematode Controlling Bacteria and Fungi from Nature -- 17. Ecofriendly Plant Growth Promoting Rhizobacteria for Crop Improvement -- 18. Microbial inoculants as Biofertilizer -- 19. Microbial Inoculant: Modern Era of Fertilizers and Pesticides.

Sommario/riassunto

How to achieve sustainable agricultural production without compromising environmental quality, agro-ecosystem function and biodiversity is a serious consideration in current agricultural practices. Farming systems' growing dependency on chemical inputs (fertilizers, pesticides, nutrients etc.) poses serious threats with regard to crop productivity, soil fertility, the nutritional value of farm produce, management of pests and diseases, agro-ecosystem well-being, and health issues for humans and animals. At the same time, microbial inoculants in the form of biofertilizers, plant growth promoters, biopesticides, soil health managers, etc. have gained considerable attention among researchers, agriculturists, farmers and policy makers. The first volume of the book *Microbial Inoculants in Sustainable Agricultural Productivity - Research Perspectives* highlights the efforts of global experts with regard to various aspects of microbial inoculants. Emphasis is placed on recent advances in microbiological techniques for the isolation, characterization, identification and evaluation of functional properties using biochemical and molecular tools. The taxonomic characterization of agriculturally important microorganisms is documented, along with their applications in field conditions. The book explores the identification, characterization and diversity analysis of endophytic microorganisms in various crops including legumes/non-legumes, as well as the assessment of their beneficial impacts in the context of promoting plant growth. Moreover, it provides essential updates on the diversity and role of plant growth promoting rhizobacteria (PGPR) and arbuscular mycorrhizal fungi (AMF). Further chapters examine in detail biopesticides, the high-density cultivation of bioinoculants in submerged culture, seed biopriming strategies for abiotic and biotic stress tolerance, and PGPR as abio-control agent. Given its content, the book offers a valuable resource for researchers involved in research and development concerning PGPR, biopesticides and microbial inoculants.
