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Titolo	Rhizobium Biology and Biotechnology // edited by Alexander P. Hansen, Devendra K. Choudhary, Pawan Kumar Agrawal, Ajit Varma
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Descrizione fisica	1 online resource (XIII, 339 p. 30 illus., 15 illus. in color.)
Collana	Soil Biology, , 1613-3382 ; ; 50
Disciplina	589.20452482
Soggetti	Agriculture Microbiology Plant breeding Mycology Soil science Soil conservation Applied Microbiology Plant Breeding/Biotechnology Eukaryotic Microbiology Soil Science & Conservation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Molecular genetic dissection of nodule formation and regulation in legumes -- Redox state and antioxidant defense in rhizobia: Effects in legume symbiosis -- Impact of Rhizobium on rhizospheric microbial communities -- Tracking milestone advances in exploiting Rhizobium in biocontrol of plant diseases -- Persistence and survival of Rhizobium in soil -- Restoration of degraded pasture soils on the basis of EM Associations -- Rhizobium as a crop enhancer and biofertilizer for increased non-legume production -- Role of root-nodule bacteria in improving soil fertility and growth attributes of leguminous plants under arid and semi arid environments -- Diversity, nitrogen fixation and biotechnology of rhizobia from arid zone plants -- Bradyrhizobia Mediated Drought Tolerance in Soybean and Mechanisms Involved --

Rhizobium in Rice Yield and Growth Enhancement -- Control strategy of plant parasitic nematodes by Rhizobium in agricultural crops -- Plant growth promoting Rhizobium (PGPR): mechanisms and biotechnological perspectives -- Identification and molecular characterization of rhizobia nodulating legumes -- Genetic Construction of Stable Rhizobial Genotypes for Improved Symbiotic Nitrogen Fixation -- Hierarchical Clustering based Algorithms and other in silico Techniques for Phylogenetic Analysis of Rhizobia -- Species diversity of Rhizobia -- Biotechnological perspectives of plant-Rhizobium symbiosis -- Exopolysaccharide production in Rhizobia : Biotechnological Implications -- Cryopreservation of rhizobial strains.

Sommario/riassunto

This book provides a valuable contribution to the field of agriculture microbiology and pooled research in the form of a compendium describing the benign functional role of Rhizobium spp., with biotechnological perspectives on maintaining agroecosystem sustainability. Topics include the occurrence and distribution of Rhizobium; the phenotypic and molecular characteristics of Rhizobium; the impact of Rhizobium on other microbial communities in the rhizosphere; the N₂-fixation ability of Rhizobium; Rhizobium and abiotic/biotic stress; Rhizobium-mediated restoration of an ecosystem; and in silico analysis of rhizobia pool, and Biotechnological perspectives of Rhizobium.
