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Titolo	Secondary Metabolites of Plant Growth Promoting Rhizomicroorganisms : Discovery and Applications // edited by Harikesh Bahadur Singh, Chetan Keswani, M. S. Reddy, Estibaliz Sansinenea, Carlos García-Estrada
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Nota di contenuto	Bioactive secondary metabolites of basidiomycetes and its potential for agricultural plant growth promotion -- Secondary metabolites of Metarhizium spp. and Verticillium spp. and their agricultural applications -- Secondary Metabolites of nonpathogenic Fusarium spp.: Scope in agriculture -- Non-mycorrhizal fungal spectrum of root communities -- Bioactive Volatile Secondary Metabolites of Trichoderma spp.: Future Perspectives -- Phytopathogen biomass as inducer of antifungal compounds by Trichoderma asperellum under solid-state fermentation -- Bioactive Secondary metabolites of Trichoderma spp. for efficient management of phytopathogens -- Secondary metabolites of the plant growth promoting model rhizobacterium Bacillus velezensis FZB42 are involved in direct suppression of plant pathogens and in stimulation of plant induced systemic resistance -- Pyrroloquinoline quinone (PQQ): Role in bacteria-plant interactions -- Bacterial mechanisms promoting the

tolerance against drought stress in plants -- *Bacillus* spp. as plant growth promoting rhizobacteria -- Secondary Metabolites from Cyanobacteria: A potential source for plant growth promotion and disease management -- Biological control of nematodes by Plant Growth Promoting Rhizobacteria: secondary metabolites involved and potential applications -- A deeper insight into the symbiotic mechanism of *Rhizobium* spp. from the perspective of secondary metabolism -- Metabolites of Plant Growth Promoting Rhizobacteria for the Management of Soil Borne Pathogenic Fungi in Crops -- Exploiting of beneficial endophytic microorganisms in plant growth promotion and crop protection: Elucidation of some bioactive secondary metabolites involved in both effects -- Bioprocessing of endophytes for production of high value biochemical -- Synthesis and application of hydroxamic acid: A key secondary Metabolite of *Piriformospora indica*.

Sommario/riassunto

Recent changes in the pattern of agricultural practices from use of hazardous pesticides to natural (organic) cultivation has brought into focus the use of agriculturally important microorganisms for carrying out analogous functions. The reputation of plant growth promoting rhizomicroorganisms (PGPRs) is due to their antagonistic mechanisms against most of the fungal and bacterial phytopathogens. The biocontrol potential of agriculturally important microorganisms is mostly attributed to their bioactive secondary metabolites. However, low shelf life of many potential agriculturally important microorganisms impairs their use in agriculture and adoption by farmers. The focal theme of this book is to highlight the potential of employing biosynthesized secondary metabolites (SMs) from agriculturally important microorganisms for management of notorious phytopathogens, as a substitute of the currently available whole organism formulations and also as alternatives to hazardous synthetic pesticides. Accordingly, we have incorporated a comprehensive rundown of sections which particularly examine the SMs synthesized, secreted and induced by various agriculturally important microorganisms and their applications in agriculture. Section 1 includes discussion on biosynthesized antimicrobial secondary metabolites from fungal biocontrol agents. This section will cover the various issues such as development of formulation of secondary metabolites, genomic basis of metabolic diversity, metabolomic profiling of fungal biocontrol agents, novel classes of antimicrobial peptides. The section 1 will also cover the role of these secondary metabolites in antagonist-host interaction and application of biosynthesized antimicrobial secondary metabolites for management of plant diseases. Section 2 will discuss the biosynthesized secondary metabolites from bacterial PGPRs, strain dependent effects on plant metabolome profile, bio-prospecting various isolates of bacterial PGPRs for potential secondary metabolites and non-target effects of PGPR on microbial community structure and functions. Section 3 encompasses synthesis of antimicrobial secondary metabolites from beneficial endophytes, bio-prospecting medicinal and aromatic hosts and effect of endophytic SMs on plants under biotic and biotic stress conditions. .
