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Nota di contenuto	Contents; Contributors; Current Books of Interest; Preface; 1: Functional Diversification of Phytopathogenic Type III Secreted Effector Proteins ; Introduction; AvrB; AvrPto; HopAB (AvrPtoB); OspF/HopAI; YopJ/HopZ; Conclusions; 2: Systems Biology of Pseudomonas Syringae Type III Secretion Effector Repertoires; Introduction; Establishing the effector repertoires of individual strains and of the P. syringae pan-genome; Mechanisms by which effector genes are acquired; Mechanisms by which effector genes are inactivated or lost Effector functions, targets, and sites of action in plants, as summarized in universal Gene Ontology terms A model for the evolution of P. syringae effector repertoires based on integrating knowledge of effector functions and distribution among diverse strains; A toolkit for systems-level study of P. syringae effector biology and future challenges; 3: Towards Understanding Fire Blight: Virulence Mechanisms and their Regulation in Erwinia amylovora; Introduction; Virulence mechanisms; Regulation of pathogenesis in E. amylovora; Concluding remarks and future prospects 4: Plant-pathogenic Acidovorax Species Introduction: the Acidovorax genus; Taxonomy of plant-pathogenic Acidovorax species; Plant diseases caused by Acidovorax species; Pathogenicity and virulence factors of Acidovorax sp.; Concluding remarks; 5: The Interactions

Between Gram-positive Pathogens and Plant Hosts; Introduction; The Gram-positive phytopathogens; Infection of plant tissue by Gram-positive phytopathogens; PAMP-triggered immunity; Countering PTI; Effector-triggered immunity; Secretion of proteases and plant cell wall-degrading enzymes; Virulence molecules of Gram-positive pathogens Evolution of a host-adapted lifestyle Summary; 6: The Molecular Interactions Between Human-pathogenic Bacteria and Plants; Introduction; Bacterial factors; Plant factors; The ecological perspective; Conclusions; Future directions; 7: Recent Advances in Pseudomonas Biocontrol; Fluorescent pseudomonads as biocontrol agents; Taxonomy of Pseudomonas biocontrol agents; Discovery, structure prediction and functional analysis of secondary metabolites in Pseudomonas; Novel insights in the evolution and functional role of major antibiotics produced by Pseudomonas biocontrol agents
New antibiotics discovered by genome mining Biosurfactants: new players in the biocontrol field; Pathogens or biocontrol agents?; Conclusions; 8: The Potential Role of Bacteriophages in Shaping Plant-Bacteria Interactions; Introduction; Overview of bacteria-phage interactions; Interactions among plants, bacteria, and their phages; Phages as biocontrol agents; Conclusions and future direction; Index

Sommario/riassunto

The relative food prosperity of the 1980's/1990's has been eroded in recent years through the convergence of a variety of factors, including climate change, population growth, foodborne pathogens, and microbial plant pathogens. Today, food security has become an urgent major global challenge. One important area of research that aims to aid the production of sufficient, safe, and nutritious food has focused on the plant-microbe interaction. Understanding this is an important prerequisite for the development of strategies to protect plants from pathogens and/or to prevent contamination of food wit