

1. Record Nr.	UNINA9910830145303321
Titolo	Molecular aspects of plant disease resistance [[electronic resource] /] / edited by Jane Parker
Pubbl/distr/stampa	Chichester, U.K. ; ; Ames, Iowa, : Wiley-Blackwell, 2009
ISBN	1-282-03451-0 9786612034510 1-4443-0144-6 1-4443-0145-4
Descrizione fisica	1 online resource (400 p.)
Collana	Annual plant reviews ; ; v. 34
Altri autori (Persone)	ParkerJane <1960->
Disciplina	580.5 632.3 632/.3
Soggetti	Plants - Disease and pest resistance - Molecular aspects Plant diseases - Molecular aspects
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 and index.
Nota di contenuto	CONTENTS; List of contributors; Preface; 1 A personal perspective of the last 40 years of plant pathology: emerging themes, paradigm shifts and future promise; 1.1 Introduction; 1.2 The hypersensitive response; 1.3 The gene-for-gene hypothesis; 1.4 Host versus non-host resistance; 1.5 Future promise; 2 Pathogen-associated molecular patterns (PAMP) and PAMP-triggered immunity; 2.1 The concept of plant immunity; 2.2 Pathogen-associated molecular patterns; 2.3 Damage-associated molecular patterns; 2.4 Pathogen-derived toxins; 2.5 PRRs in plant immunity 2.6 Intracellular signal transduction in PTI2.7 Suppression of PTI by bacterial effectors; 2.8 Concluding remarks; 3 Pseudomonas syringae type III-secreted proteins and their activities and effects on plant innate immunity; 3.1 Introduction; 3.2 P. syringae type III-secreted helper proteins; 3.3 The plant innate immune system; 3.4 Enzymatic activities and plant targets of P. syringae type III effectors; 3.5 Influence of type III effectors on plant hormones; 3.6 Concluding remarks; 4 Fungal and oomycete biotrophy; 4.1 Introduction; 4.2 Penetration and

establishment of infection structures

4.3 Dealing with plant defence responses4.4 Contribution of the host to infection; 4.5 Acquiring nutrients from the host; 4.6 Outlook; 5

Genome biology cracks enigmas of oomycete plant pathogens; 5.1 Introduction; 5.2 Biology and pathology of oomycetes; 5.3 Genomic resources; 5.4 The impact of genomics on gene discovery; 5.5 The secretome; 5.6 Future perspectives; 6 Plant-virus interactions: defence and counter-defence; 6.1 The unique challenge posed by viruses to plants; 6.2 Virus infection and propagation through susceptible host plants

6.3 'Classical' or genetically predetermined resistance6.4 RNA silencing;

6.5 Viral suppressors of RNA silencing; 6.6 Concluding remarks; 7

Marshalling the troops: intracellular dynamics in plant pathogen defense; 7.1 Introduction; 7.2 The front line - exocytosis, endocytosis and vesicle transport; 7.3 At headquarters - nucleocytoplasmic trafficking in plant immunity; 7.4 Conclusions; 8 Role of plant

secondary metabolites at the host-pathogen interface; 8.1

Introduction; 8.2 Classification of defence-related plant secondary

metabolites; 8.3 Biological activity of plant secondary metabolites

8.4 Dynamic induction and targeting of secondary metabolites to the

pathogen interface8.5 Genetic approaches to validate defensive

functions of plant secondary metabolites; 8.6 Successful pathogens;

8.7 Concluding remarks; 9 Chemical ecology of plant-insect

interactions; 9.1 Introduction; 9.2 Recognition and signalling; 9.3

Defence strategies; 9.4 The cost of defence to plants; 9.5 Airborne

communication; 9.6 Priming and manipulations to enhance pest

resistance; 10 Lipid signals in plant-pathogen interactions; 10.1

Introduction

10.2 Epidermal surface lipids influence plant-pathogen interactions

Sommario/riassunto

In recent years, our understanding of the mechanisms involved in a plant's resistance to attack by disease, has seen major advances. This important new title, part of Blackwell Publishing's Annual Plant Reviews Series, provides cutting edge reviews of each of the major aspects of the subject. Edited by Dr Jane Parker from the Max-Planck Institute, Molecular Aspects of Plant Disease Resistance includes contributions from many of the world's leading researcher in the area. Coverage includes the evolution of plant-virus interactions and plant resistance loci, the role of plant seco
