1. Record Nr. UNISA996203964003316

Titolo	Induced resistance for plant defence [[electronic resource]] : a sustainable approach to crop protection / / edited by Dale Walters, Adrian Newton, Gary Lyon
Pubbl/distr/stampa	Oxford, UK ; ; Ames, Iowa, : Blackwell Pub., 2007
ISBN	1-281-31217-7 9786611312176 0-470-99597-1 0-470-99598-X
Descrizione fisica	1 online resource (272 p.)
Classificazione	42.43
Altri autori (Persone)	WaltersDale NewtonAdrian C LyonGary (Gary D.)
Disciplina	632.9 632/.9
Soggetti	Plants - Disease and pest resistance - Genetic aspects Plants - Disease and pest resistance - 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	Induced Resistance for Plant Defence; Contents; List of contributors; Preface; Chapter 1 Introduction: definitions and some history; 1.1 Induced resistance: an established phenomenon; 1.2 Terminology and types of induced resistance; 1.3 A little history; 1.4 It's all about interactions; 1.5 Acknowledgements; 1.6 References; Chapter 2 Agents that can elicit induced resistance; 2.1 Introduction; 2.2 Compounds inducing resistance; 2.3 Conclusions; 2.4 Acknowledgements; 2.5 References; Chapter 3 Genomics in induced resistance; 3.1 Introduction 3.2 Transcriptome analyses for discovery of genes involved in induced resistance3.3 Proteome analyses and induced resistance; 3.4 Metabolome analysis and induced resistance; 3.5 Forward genetic approaches for discovery of genes involved in induced resistance; 3.6 Reverse genetic approaches; 3.7 Manipulation of master switches for activation of induced resistance; 3.8 Suitable promoters for defence gene expression; 3.9 Conclusions: a systems biological approach to

induced plant defence?; 3.10 Acknowledgements; 3.11 References; Chapter 4 Signalling cascades involved in induced resistance
4.1 Introduction4.2 SA, JA and ET: important signals in primary defence; 4.3 SA, JA and ET: important signals in induced disease resistance; 4.4 Crosstalk between signalling pathways; 4.5 Outlook; 4.6 Acknowledgements; 4.7 References; Chapter 5 Types and mechanisms of rapidly induced plant resistance to herbivorous arthropods; 5.1 Introduction: induced resistance in context; 5.2 Comparison of the threats posed by pathogens and herbivores; 5.3 Types of induced resistance; 5.4 Establishing the causal basis of induced resistance
5.5 Arthropods as dynamic participants in plant...arthropod interactions5.6 Conclusions; 5.7 References; Chapter 6 Mechanisms of defence to pathogens: biochemistry and physiology; 6.1 Introduction; 6.2 Structural barriers; 6.3 Phytoalexins; 6.4 The hypersensitive response (HR); 6.5 Antifungal proteins; 6.6 Conclusions; 6.7 References; Chapter 7 Induced resistance in natural ecosystems and pathogen population biology: exploiting interactions; 7.1 Introduction; 7.2 Environmental variability; 7.3 Ecology of the plant environment; 7.4 Environmental parameters
7.5 Plant and pathogen population genetics7.6 Consequences of resistance induction; 7.7 Conclusions; 7.8 Acknowledgements; 7.9 References; Chapter 8 Microbial induction of resistance to pathogens; 8.1 Introduction; 8.2 Resistance induced by plant growth promoting rhizobacteria; 8.3 Induction of resistance by biological control agents; 8.4 Resistance induced by composts; 8.5 Disease control provided by an endophytic fungus; 8.6 Mycorrhizal symbiosis and induced resistance; 8.7 Acknowledgements; 8.8 References; Chapter 9 Trade-offs associated with induced resistance; 9.1 Introduction
9.2 Artificial resistance inducers

Sommario/riassunto

Plant diseases worldwide are responsible for billions of dollars worth of crop losses every year. With less agrochemicals being used and less new fungicides coming on the market due to environmental concerns, more effort is now being put into the use of genetic potential of plants for pathogen resistance and the development of induced or acquired resistance as an environmentally safe means of disease control. This comprehensive book examines in depth the development and exploitation of induced resistance. Chapters review current knowledge of the agents that can elicit induced resistance,