

1. Record Nr.	UNINA9910298261603321
Titolo	Fungicide Resistance in Plant Pathogens : Principles and a Guide to Practical Management / / edited by Hideo Ishii, Derek William Hollomon
Pubbl/distr/stampa	Tokyo : , : Springer Japan : , : Imprint : Springer, , 2015
ISBN	4-431-55642-7
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (481 p.)
Disciplina	570
Soggetti	Plant diseases Agriculture Microbiology Food—Biotechnology Plant Pathology Food Science
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 at the end of each chapters and index.
Nota di contenuto	PART I DEVELOPMENT OF FUNGICIDE RESISTANCE -- 1 Fungicide Resistance: 40 Years on and Still a Major Problem -- 2 Genetics of Fungicide Resistance -- 3 Stability of Resistance -- 4 Modelling Analysis of Resistance Management: The Use of Mathematical Models to Guide Fungicide Resistance Management Decisions -- 5 Modelling Analysis of Resistance Management: Evidence Based Resistance Management -- 6 Fitness Cost of Resistance: Impact on Management -- PART II MECHANISMS OF RESISTANCE -- 7 Anti-Tubulin Agents -- 8 Respiration Inhibitors: Complex II -- 9 Respiration Inhibitors: Complex III -- 10 Oomycete Fungicides: Phenylamides, Quinone outside Inhibitors and Carboxylic Acid Amides -- 11 Melanin Biosynthesis Inhibitors -- 12 Histidine Kinase Inhibitors -- 13 Sterol Biosynthesis Inhibitors: C-14 Demethylation (DMIs) -- 14 Sterol biosynthesis inhibitors: C-4 demethylation -- 15 Multidrug Efflux Transporters -- PART III MONITORING RESISTANCE -- 16 Monitoring Resistance in Obligate Pathogens by Bioassays Relating to Field Use: Grapevine Powdery and Downy Mildews -- 17 Monitoring Resistance by Bioassay:

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Sommario/riassunto

This volume offers a comprehensive coverage of the general principles and recent advances in fungicide resistance. It describes the development, mechanisms, monitoring and management of resistance, and covers the most important group of fungicides that have caused resistance on various crops. An historical review of fungicide resistance over the past 40 years sets the scene for up-to-date basic information on mode of action, as well as the genetics, mechanisms, and evolution of resistance. Monitoring for resistance, including the latest developments in molecular diagnostics, moves readers into the practical aspects of resistance management, which is dealt with through a series of case studies outlining fungicide-use strategies on several key crops. The chapters reflect the experience of authors internationally recognised for their significant contributions to fungicide resistance research. The majority of crop diseases are caused by fungal pathogens, and disease control relies heavily on chemically synthesized fungicides. However, modern fungicides often encounter the problem of resistance development in target pathogens. Thus pathogen resistance to fungicides is an important factor that causes loss of yield and quality of crops. It often threatens biosecurity through the decrease of fungicide efficacy in the fields. To manage fungicide resistance successfully will require the promotion of integrated disease management, involving not just chemical fungicides, but also host plant resistance, agronomic factors, and reliable biological control agents where these are available. Well referenced throughout, the book offers a comprehensive account of resistance, which will be useful as a source of material for lecturers and for both industrial and academic scientists involved in fungicide resistance research. It is also a valuable sourcebook for students.