

1. Record Nr.	UNINA9910813649403321
Titolo	Insect resistance management : biology, economics and prediction // edited by David W. Onstad
Pubbl/distr/stampa	Amsterdam ; ; London, : Academic Press, 2008
ISBN	1-281-07071-8 9786611070717 0-08-055417-2
Edizione	[1st ed.]
Descrizione fisica	1 online resource (318 p.)
Altri autori (Persone)	OnstadDavid W
Disciplina	632.9
Soggetti	Pests - Control Plants - Disease and pest resistance
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	Front Cover; Insect Resistance Management; Copyright Page; Contents; Preface; List of Contributors; Chapter 1 Major Issues in Insect Resistance Management; Philosophy and History; Major Themes; Additional Ideas; References; Chapter 2 Valuing Pest Susceptibility to Control; Goods and Values; Valuation of Pests; Discounting and Valuing the Future; Risk; Overview of Economic Models; Conclusions; References; Chapter 3 Resistance in the Post-Genomics Age; Introduction; General Mechanisms of Resistance; Resistance to Classes of Insecticides; Genomics, and Proteomics; Conclusions; References Chapter 4 Concepts and Complexities of Population GeneticsWithout Natural Selection; Evolution Due to Natural Selection; Natural Selection in Patchy Landscapes; Gene Flow and Population Structure; Mating; Random Genetic Drift and Demographic Allee Effects; Gene Interactions; Selection Intensity and Resistance Genes; Dominance; Fitness Costs; Haplo-diploidy; Resistance Evolution and Pest Generation Time; Temporal and Spatial Scales in Hypotheses; Conclusions; References; Chapter 5 Adapting Insect Resistance Management Programs to Local Needs; Introduction; Creating Effective IRM Programs IRM Programs for High-Risk Global PestsConclusions; References; Chapter 6 Negative Cross-Resistance: Past, Present, and Future Potential; Introduction; Existing Examples of NCR; Screening and

Development of NCR Toxins; Deployment Strategies; Additional Issues; Conclusions; References; Chapter 7 Resistance by Ectoparasites; Definitions; Mosquitoes; Human Head Lice; Fleas of Cats and Dogs; Mites on Bees; Ticks of Cattle; Blow Fly in Sheep; Horn Fly on Cattle; Discussion; References; Chapter 8 Resistance to Crop Rotation; Background; US Corn Production, Corn Rootworm, and Insecticides Resistance to Crop Rotation Managing Rotation-Resistant Corn Rootworms; Future Resistance; References; Chapter 9 Arthropod Resistance to Crops; Traditional Crops; Transgenic Insecticidal Crops; Discussion; References; Chapter 10 The Role of Environment in Insect Resistance Management; Landscape Structure and Design; Temporal Dynamics of the Environment and Management; Alternative Refuges and Trap-Crop Strategies; Natural Enemies; Conclusions; References; Chapter 11 Insect Resistance Management: Adoption and Compliance; Conceptual Framework; Human Behavior; Implications of Human Behavior ConclusionsReferences; Chapter 12 Modeling for Prediction and Management; Model Development and Evaluation; IRM Models; Conclusions; References; Chapter 13 Monitoring Resistance; Susceptibility and Tolerance; Quantifying Tolerance; Monitoring as Part of Resistance Management; Examples of Monitoring Projects; Conclusion; References; Chapter 14 The Future of Insect Resistance Management; Case Studies; Guidelines for Managing Insect Resistance; Conclusion; References; Index; A; B; C; D; E; F; G; H; I; L; M; N; O; P; Q; R; S; T; V; W; Z

---

## Sommario/riassunto

Insects, mites, and ticks have a long history of evolving resistance to pesticides, host-plant resistance, crop rotation, pathogens, and parasitoids. Insect resistance management (IRM) is the scientific approach to preventing or delaying pest evolution and its negative impacts on agriculture, public health, and veterinary issues. This book provides entomologists, pest management practitioners, developers of new technologies, and regulators with information about the many kinds of pest resistance including behavioral and phenological resistance. Abstract concepts and various case studies provi

---