

1. Record Nr.	UNINA9910790411503321
Titolo	Integrated pest management : current concepts and ecological perspective // edited by Dharam P. Abrol
Pubbl/distr/stampa	San Diego, : Academic Press, 2014 San Diego, CA : , : Academic Press, , 2014
ISBN	0-12-401709-6
Descrizione fisica	1 online resource (xiv, 561 pages) : illustrations (some color)
Collana	Gale eBooks
Disciplina	632.96
Soggetti	Pests - Control Pests - Integrated control
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; Integrated Pest Management; Copyright Page; Contents; About the Editor; Preface; List of Contributors; 1 Host-Plant Resistance in Pest Management; 1.1 Introduction - What is Plant Resistance?; 1.2 The Traditional Approach to Plant Resistance; 1.2.1 Screening; 1.2.2 Categorization of Resistance; 1.2.3 Breeding; 1.2.4 Implementation; 1.3 Current and Past Uses of Plant Resistance; 1.4 The Evolving Role of Mechanistic Research in Host-Plant Resistance; 1.5 Induced Resistance as a Management Tool; 1.6 Case Studies: The Use of Resistant Rice Varieties 1.6.1 Brown Plant hopper Resistance 1.6.2 Stem Borer Resistance; 1.6.3 Rice Water Weevil Resistance; 1.6.4 Induced Resistance in Rice; 1.7 Conclusions; Acknowledgments; References; 2 Impact of Climate Change on Pest Management and Food Security; 2.1 Introduction; 2.2 Impact of Climate Change on Geographic Distribution and Population Dynamics of Insect Pests; 2.3 Effect of Climate Change on the Effectiveness of Pest Management Technologies; 2.3.1 Expression of Resistance to Insect Pests; 2.3.2 Transgenic Crops for Pest Management; 2.3.3 Activity and Abundance of Natural Enemies 2.3.4 Biopesticides and Synthetic Insecticides 2.4 Climate Change and Pest Management: The Challenge Ahead; 2.5 Conclusions; References; 3 Application of Remote Sensing in Integrated Pest Management; 3.1 Introduction; 3.2 Methods; 3.2.1 Simulation of a Simple Random

Sample Design; 3.2.2 Insect Infestation of Habitats Simulation Model; 3.2.3 Dispersion Analyses of Simulated Conditions; 3.2.4 Simulation Experiments with Dice; 3.2.5 Field Data Illustrations; 3.3 Results; 3.4 Discussion; 3.5 Conclusions; Acknowledgments; References; 4 Weather-based Pest Forecasting for Efficient Crop Protection 4.1 Introduction 4.1.1 Crop Protection and Current Challenges; 4.1.2 Weather, Pest, and Crop Interactions; 4.2 Weather; 4.2.1 Weather Factors and Derived Variables; 4.2.2 Critical Weather Variables for Pest Forecasting; 4.2.3 Sources of Weather Data and Reliability; 4.3 Pests; 4.3.1 Sensitivity and Vulnerability to Weather Factors - Extreme Events and Prevailing Climate; 4.3.2 Weather Forecasts for Early Warning/Scouting of Pest; 4.4 Crops; 4.4.1 Agronomic Dependence on Weather Factors - Planting Days, Phenology, and Host Maturity 4.4.2 Synchronization of Pest Emergence and Host Development Avoidance and Planting Dates 4.5 Efficient Crop Protection Product; 4.5.1 Weather-Based Forecasts and IPM; 4.5.2 Existing Products; 4.5.3 Case Studies; 4.5.3.1 Case Study 1: WRF model and Early Leaf Spot in Peanut; 4.5.3.2 Case Study 2: WRF Model and Thrips-Vector Populations; 4.5.4 Accuracy, Limitations, and Uncertainties; 4.6 Conclusions; References; 5 Forecasting of Colorado Potato Beetle Development with Computer Aided System SIMLEP Decision Support System; 5.1 Introduction; 5.1.1 Brief History of the Colorado Potato Beetle 5.1.2 Biology and Life Cycle

Sommario/riassunto

Integrated Pest Management: Current Concepts and Ecological Perspective presents an overview of alternative measures to traditional pest management practices using biological control and biotechnology. The removal of some highly effective broad-spectrum chemicals, caused by concerns over environmental health and public safety, has resulted in the development of alternative, reduced risk crop protection products. These products, less toxic to the environment and easily integrated into biological control systems, target specific life stages or pest species. Predation - recognized as
