

Integrated Disease and Pest Management for Sustainable Agriculture

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Preface

Sustainable agriculture has become a global priority as farmers and researchers strive to increase crop productivity while protecting environmental and human health. One of the major challenges faced in modern agriculture is the management of plant diseases and insect pests that significantly reduce crop yield and quality. Conventional methods relying heavily on chemical pesticides have often led to problems such as pest resistance, environmental contamination, and negative impacts on beneficial organisms. Therefore, the concept of Integrated Disease and Pest Management (IDPM) has emerged as a sustainable and holistic approach to crop protection.

The book **“Integrated Disease and Pest Management for Sustainable Agriculture”** aims to provide comprehensive insights into modern strategies for managing plant diseases and insect pests through environmentally sound and economically viable approaches. It highlights the integration of biological control, cultural practices, resistant crop varieties, ecological principles, and judicious use of chemical pesticides to achieve effective pest and disease management.

This book brings together contributions from researchers, academicians, and experts who present recent advancements, innovative technologies, and practical management strategies relevant to sustainable farming systems. The chapters cover diverse aspects including pest and disease identification, biological control agents, integrated management strategies, climate change impacts, and emerging technologies in crop protection.

The primary objective of this book is to serve as a valuable resource for students, researchers, extension workers, and agricultural professionals. It is hoped that this volume will contribute to strengthening sustainable agricultural practices and encourage the adoption of integrated approaches that ensure food security while conserving natural resources for future generations.

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