

Book Title (ID 2024_06)

Current Trends in the Diagnosis and Management of Plant Diseases

Pranab Dutta, Gunadhya K. Upamanya, Abhay K. Pandey

About the Book

It offers an in-depth exploration of modern plant pathology, showcasing the latest advancements and innovative strategies for disease control. The book covers molecular diagnostics, including cutting-edge tools for detecting killer pathogens and the use of DNA markers in disease management. It emphasizes eco-friendly management practices, biocontrol mechanisms of *Bacillus*, and the role of endophytes and microbial agents. The menace of mycotoxins in stored commodities and seed-borne pathogen detection are thoroughly discussed. Advanced topics include genomics, CRISPR gene editing, RNA interference and synthetic biology, highlighting their impact on plant immunity and resistance. The importance of phytobiomes, soil health and climate change adaptation in combating emerging diseases is examined. Readers will find insights into advanced detection techniques for fungi and bacteria, proteomics and nanotechnology applications. Integrated disease management, host plant resistance and tritrophic interactions are explored, alongside remote sensing and GIS for disease monitoring. The book also delves into biological control of post-harvest diseases, growth-promoting rhizobacteria and microbial volatile organic compounds. With its comprehensive coverage and focus on sustainable, eco-friendly practices, this book is an essential resource for researchers and students dedicated to advancing plant health and crop protection.

MAJOR THEMES BUT NOT LIMITED TO:

Theme 1: Introduction to Modern Plant Disease Diagnosis and Management

Theme 2: Molecular Diagnosis of Killer Pathogens

Theme 3: Biocontrol Mechanisms of *Bacillus* for Fusarium Wilt Management

Theme 4: Eco-Friendly Management of Plant Diseases

Theme 5: Biological Agents: Opportunities and Challenges in Disease Control

Theme 6: Recent Diagnostics and Detection Tools for Plant Pathogens

Theme 7: Molecular Prospecting: Advancements in the Diagnosis and Control of *Rhizoctonia solani*

Theme 8: Advanced Detection Techniques for Phytopathogenic Fungi

Theme 9: Molecular Diagnostics and Application of DNA Markers in Disease Management

Theme 10: Physiological and Molecular Signaling in Plant-Pathogen Interactions

Theme 11: Biotechnology in the Diagnosis and Management of Plant Diseases

Theme 12: In Vitro Antimycotic and Biosynthetic Potential of Fungal Endophytes

Theme 13: The Biological Control Possibilities of Seed-Borne Fungi

Theme 14: Mycotoxin Menace in Stored Agricultural Commodities

Theme 15: Diagnostics of Seed-Borne Plant Pathogens

Theme 16: Aflatoxigenic Fungi in Food Grains: Detection and Management

Theme 17: Major Diseases of Crops and Their Management Strategies

Theme 18: Integrated Disease Management: Concepts and Applications

Theme 19: Genomics and Plant Disease Resistance

Theme 20: Host Plant Resistance: Mechanisms and Applications

Theme 21: Tritrophic Interactions in Plant Disease Management

Theme 22: Fungicides and Their Role in Disease Management

Theme 23: Advancements in Molecular Diagnostics for Viral Plant Pathogens

Theme 24: Nanotechnology in Plant Disease Diagnosis and Control

Theme 25: Microbial Biocontrol Agents: Recent Advances and Applications

Theme 26: Plant Immune System and Its Role in Disease Resistance

Theme 27: CRISPR-Cas Systems in Plant Pathology

Theme 28: Phytobiomes and Their Impact on Plant Health

Theme 29: Soil Health and Disease Suppression

Theme 30: Application of Metagenomics in Plant Disease Management

Theme 31: Climate Change and Emerging Plant Diseases

Theme 32: Endophytic Fungi as Biocontrol Agents

Theme 33: Bioinformatics Tools for Plant Disease Research

Theme 34: Synthetic Biology Approaches in Plant Disease Management

Theme 35: Proteomics and Its Application in Plant Pathology

Theme 36: Phytopathogenic Bacteria: Detection and Management

Theme 37: Phytopathogenic Nematodes: Challenges and Solutions

Theme 38: Virus-Induced Gene Silencing in Plant Pathogen Studies

Theme 39: Use of RNA Interference in Plant Disease Management

Theme 40: Remote Sensing and GIS in Plant Disease Monitoring

Theme 41: Biological Control of Soil-Borne Pathogens

Theme 42: Pathogenomics: Unveiling Pathogen Strategies

Theme 43: Induced Resistance in Plants Against Pathogens

Theme 44: Phytobiome Engineering for Disease Management

Theme 45: Biocontrol of Post-Harvest Diseases

Theme 46: Role of Plant Growth-Promoting Rhizobacteria in Disease Management

Theme 47: Innovative Approaches to Manage Bacterial Wilt

Theme 48: Next-Generation Sequencing in Plant Disease Diagnostics

Theme 49: Microbial Volatile Organic Compounds in Disease Management

Theme 50: Future Horizons in Plant Disease Diagnosis and Management

****Note:** Chapter title may be modified based on theme or new chapter may also be proposed by the author.

Editorial Board

Chief Editor



Dr. Pranab Dutta
Professor
Department of Plant Pathology
CoA, Kyrdemkulai
Meghalaya, INDIA
Central Agricultural University,
Imphal
Email:
pranabdutta74@gmail.com

Associate Editors



Dr. Gunadhya K. Upamanya
Associate Professor,
CoA, Dhubri,
AAU, Assam, INDIA



Dr. Abhay K. Pandey, Scientist
Tea Research Association,
Nagrakata, West Bengal,
INDIA

Key Features & Benefits

- Free CrossRef DOI to each chapter
- Free Authorship Certificate
- Lifetime Archived Data in Biotica DigiLibrary
- Indexing in ANGIRAS and other databases
- Concessions in Registration Fees of all Biotica International Conferences
- Fast, Rigorous and Constructive Peer-Review system
- Very Nominal Publication Fees
- Unique Book Launching Program at International Platform
- Skilled, Proficient, Experienced and Competent Editorial and Production Team
- Unlimited authors
- And many more.....

CHAPTER SUBMISSION PROCEDURE:

Book Chapter may be submitted through e-mail: bioticabooks@gmail.com or online portal

- **Last date of chapter submission:** 15th Oct., 2024
- Chapter must be prepared in accordance with the authors guidelines
- **Reference:** Standard ANGIRAS style
- Manuscript should not exceed 6000 words or 15 pages, whichever is less, including references
- AI generated contents must be 0%
- Plagiarism less than 15%
- Chapters written without any scientific facts & figures will not be accepted
- Before submission chapters must be booked through email or whatsapp number provided below

Book your chapter now

WhatsApp: +91-9863023086

e-mail: bioticabooks@gmail.com

Website: www.bioticapublications.com



Join WhatsApp

The Book will be Released during the Upcoming 4th Biotic Science Congress (BioSCon, 24) & International Conference during 21-22 November, 2024 at College of Agriculture, Cental Agricultural University (Imphal), Kyrdemkulai, Meghalaya.