# Fundamentals of

# **MOLECULAR PLANT PATHOLOGY**

2021 Edition



**Dr. Parimal Mandal** 

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# Fundamentals of MOLECULAR PLANT PATHOLOGY

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# About the book **Fundamentals of Molecular Plant pathology**

The book entitled "Fundamentals of Molecular Plant pathology" is written as a foundation book of Plant pathology which describes how pathogens cause disease through interaction between host and pathogens. The book covers the major areas of plant pathology such as disease epidemic influenced by host, pathogen and environmental interaction, disease management by disease forecasting systems, cultural practice, plant quarantine, chemical methods, biological methods and integrated disease management (IDM) practice, improvement of crops through Recombinant DNA technology and somatic hybridization, triggering defense induction in plants such as Systemic Acquired Resistance (SAR) and Induced Systemic Resistant (ISR) by biotic and abiotic elicitors. The book also covers some common diseases of cultivated crops in West Bengal, India. For publishing this book "Fundamentals of Molecular Plant pathology" author expresses sincere thank to M/S. Kripa Drishti Publication House for co-operation and publishing within stipulated time with an elegant and attractive format.

Author also expresses sincere thank and heartfelt gratitude to his mentors Professor (Dr.) Aniruddha Saha, Department of Botany, University of North Bengal for his valuable suggestions and cooperation at all stages of the work. Author is grateful and thank to his colleagues and well-wishers, Dr. Ayon Pal, Dr. Sanjoy Sadhukhan, Sri Zerald Tiru, Dr. Arka Pratim Chakraborty, Sri Vivek Roy and Tapasi Debsarma for encouraging in writing this book with endless support. Author also thank to his beloved parents (Sri Pulin Chandra Mandal and M/S Tarubala Mandal) and son (Sri Patradeep Deb Mandal) for their endless support and assistance.

Any comments and suggestions for further improvement of the book will be gratefully appreciated.

Author

Dr. Parimal Mandal

- Chapter 1: Epidemiology of plant diseases and terminology
- Chapter 2: Molecular mechanism of host pathogen interaction and disease development
- Chapter 3: Defense mechanism in plant against pathogenic microorganism
- Chapter 4: Principle and different methods of plant disease control
- Chapter 5: Effect of mycotoxins on man and animal: mycotoxicoses, dermatomycosis, aspergillosis and fungi in allergenic reaction
- Chapter 6: Genetic engineering technique of BT cotton: A transgenic approach for crop protection
- **Chapter 7: Forecasting of plant disease epidemic**
- Chapter 8: Somatic hybridization for crop improvement
- **Chapter 9: Some common diseases of plants in West Bengal**



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