

PLANTS, MICROBES AND DISEASES

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Plant diseases are caused by several microorganisms such as bacteria, fungi and viruses. They significantly affect plant health and productivity. Recent advances in molecular and genomic of plant diseases, call a need to integrate knowledge of microbial taxonomy, genomics, and plant pathology that reflects state-of-the-art knowledge about plant disease mechanisms. This book provides a concise but comprehensive description of plant diseases with special focus on plant diseases caused by numerous microbial pathogens, from a plant biologist's and a microbiologist's point of view. This book includes chapters on diseases caused by fungi, bacteria, virus, and nematodes and provides an improved understanding of the epidemiology, current concepts of pathogenesis and mechanisms of their biology. It provides the most recent information on the classification of plant pathogens, microbes, diseases, mode of transmission, symptoms and treatments of important plant diseases, also taking into consideration the molecular interactions between host cells and infectious agents. The presentation of these topics is followed by a discussion on systemic and biological control of diseases, as well as postharvest diseases of plant products and studies on *Asiatic lung*. The book provides necessary references, basic lab techniques and literature citations to allow a more detailed investigation of particular diseases and control. This book would be indispensable for researchers and will also serve as a textbook for advanced undergraduate and postgraduate students of disciplines of botany, plant pathology, crop science and microbiology.

KEY FEATURES

- Explains the role of microbes in the pathogenesis of common plant diseases.
- Excellent resource for both undergraduate and postgraduate courses in Botany, Agriculture, Microbiology and related domains.
- Latest and updated information of plant pathogens, microbes with comprehensive diagrams and photographs.
- Describes several specific plant diseases (both pre- and post-harvest) caused by fungi, bacteria, virus and nematodes.
- Practical disease management strategies including economic losses caused by these plant diseases.
- Latest information on genetic, molecular and biological techniques in control of plant diseases.
- Includes written on *Asiatic lung* and basic lab techniques in microbiology.

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Plant diseases are caused by several microorganisms such as bacteria, fungi and viruses. They significantly affect plant health and productivity. Recent advances in molecular and genomics of plant diseases raises a need to integrate knowledge of microbial taxonomy, genomics, and plant pathology that reflects state-of-the-art knowledge about plant-disease mechanisms. This book provides a concise but comprehensive description of plant diseases with special focus on plant diseases caused by numerous microbial pathogens, from a plant biologist's and a microbiologist's point of view. This book includes chapters on diseases caused by fungi, bacteria, virus, and nematodes and provides an improved understanding of the epidemiology, current concepts of pathogenesis and mechanisms of their biology. It provides the most recent information on the classification of plant pathogenic microbes, causes, mode of transmission, symptoms and treatments of important plant diseases also taking into consideration the molecular interactions between host cells and infectious agents. The presentation of these topics is followed by a discussion on systemic and biological control of diseases, as well as postharvest diseases of plant products and studies on AM fungi. The book provides necessary references, basic lab techniques and literature citations to allow a more detailed investigation of particular diseases and control. This book would be indispensable for researchers and will also serve as a textbook for advanced undergraduate and postgraduate students of disciplines of botany, plant pathology, crop science and microbiology.

SALIENT FEATURES

- Explores the role of microbes in the pathogenesis of common plant diseases.
- Excellent resource for both undergraduate and postgraduate courses in Botany, Agriculture, microbiology and related domains.
- Latest and updated information of plant pathogenic microbes with comprehensive diagrams and photographs.
- Describes several specific plant diseases (both pre- and post-harvest) caused by fungi, bacteria, virus and nematodes.
- Practical disease management strategies controlling enormous losses caused by these plant diseases.
- Latest information on genetic, molecular and biological techniques in control of plant diseases.
- Includes section on AM fungi and basic lab techniques in microbiology.

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