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**FUNGAL DISEASES OF RICE AND
THEIR MANAGEMENT**

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| Summary: "Rice is a widely consumed crop around the world that has tremendous importance and is cultivated almost everywhere except Antarctica. However, various biotic and abiotic stresses have a negative effect on rice cultivation, seriously reducing its yield. This volume examines the bacterial and fungal pathogens that can cause rice diseases and explores how to manage these diseases. The volume covers the economic and environmental impact of rice fungal diseases on global food security and proceeds to delve into diagnostic methods for rice fungal pathogens, discussing both traditional and molecular techniques for detection. The volume discusses the potential of biocontrol agents for the sustainable management of rice fungal diseases and also provides new insights from the bioinformatic tools for rice fungal disease resistance. This book presents a number of key fundamental aspects such as pathogen ecology, epidemiology, and host-pathogen interactions of rice and offers a plethora of control measures to mitigate harm from fungal diseases. It presents an analysis of the current status of resistance genes as well as current strategic and applied methods, such as biotechnology, bioinformatics tools, and biological methods for the effective management of rice fungal diseases. Computational deciphering of blast resistant genes is also discussed. It elaborates on the ecology and research status of diseases and pathogens of rice, including rice sheath blight pathogen, sheath rot disease, rice blast pathogens, rice brown spot disease, rice kernel smut pathogen, rice bakanae/foot rot disease, and others. Fungal Diseases of Rice and Their Management is a valuable resource and guide for research students, rice breeders, rice biotechnologists, and others involved in rice research, production, and cultivation"-- Provided by publisher.

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CHAPTER 1

Economical and Environmental Impact of Rice Fungal Diseases on Global Food Security

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