1. Record Nr. UNINA9911007472203321 Autore Abd-Elsalam Kamel A. <1969-> Titolo Elicitors for Sustainable Crop Production : Overcoming Biotic Stress Challenges in Plants / / edited by Kamel A. Abd-Elsalam, Heba I. Mohamed Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2025 Pubbl/distr/stampa **ISBN** 981-9665-69-8 Edizione [1st ed. 2025.] Descrizione fisica 1 online resource (606 pages) Collana Agroecosystem Dynamics and Sustainable Practices, , 3059-2488 Altri autori (Persone) MohamedHeba I 571.92 Disciplina Soggetti Plant diseases Stress (Physiology) **Plants** Nanobiotechnology Plants - Disease and pest resistance Plant physiology Plant Pathology Plant Stress Responses Plant Immunity Plant Physiology Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Chapter 1. Plant Defense Mechanisms Against Biotic Stress -- Chapter 2. Elicitors in Plant Biology: Types and Defense Mechanisms -- Chapter 3. Actinobacteria's role in plant defense and their effectiveness as biocontrol agents against plant pathogens -- Chapter 4. Commercial Applications of Elicitors in Crop Protection Products, Seed Treatments, Biostimulants, Sustainable Agriculture, and Precision Farming --Chapter 5. Nano-Elicitors: A Promising Strategy for Sustainable Crop Production under Biotic Stress Conditions -- Chapter 6. Role of Carbohydrates in Enhancing Plant Immunity and Defense -- Chapter 7. The Protective Effects of Melatonin in Biotic Stress Mitigation --

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Sommario/riassunto

This book covers all aspects of biotic stress, with detailed focus on elicitors to alleviate adverse effects on plant development and growth. Elicitors are substances that can trigger plants to mount defenses against biotic stressors. Exogenous elicitor application prior to stress events modifies transcription factors, enhancing plant resilience. This book explores the role and applications of elicitors that activate a plant's immune system, leading to increased resistance against biotic stressors. This book also explains how elicitors, both abiotic and biotic. can trigger physiological and morphological responses and phytoalexin accumulation. By reducing reliance on harmful pesticides, this guide fosters a more sustainable and environmentally friendly agricultural approach. "This book is a resource for researchers, agricultural professionals, and farmers seeking solutions to combat biotic stress in crops. Whether you're a seasoned grower or just starting out, this book provides practical strategies and insights to safeguard your crops and achieve a healthier, more productive harvest, empowering you to cultivate a thriving future for your crops and the environment.