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Nota di contenuto	Preface -- 1. Nanotechnology and their applications in insects pest control -- 2. Cytotoxic potential of plant nanoparticles -- 3. Nanoparticle based plant disease management: Tools for sustainable agriculture -- 4. Vital implication of nanotechnology in plant protection -- 5. PCR Amplification yield enhancement of fungal DNA templates extracted via three types of nanoparticles -- 6. Potential of Nanofabrication for Environment Management -- 7. Nano biotechnology in Plant Pathology -- 8. Recent advancement in Nanofungicides -- 9. Nanotechnology and pesticides: Current state, Prospects, and constraints -- 10. Role of microbes in plant protection using intersection of nanotechnology and biology -- 11. Interaction of nanoparticles with plant cell -- 12. Antifungal activity of three types of Nano agrochemicals against Alternaria alternate, Rhizoctonia solani and

Botrytis cinerea -- 13. The role of nanostrucutres in plant protection -- 14. Application of Silver nanoparticles in Plant disease control -- 15. Nanotechnology in agricultural diseases and Food safety -- 16. Application of nanotechnology in detection of mycotoxins -- Index.

Sommario/riassunto

Nanotechnology can target specific agricultural problems related to plant pathology and provide new techniques for crop disease control. Plant breeders and phytopathologist are needed who can apply nanogenomics and develop nanodiagnostic technologies to accurately advance the improvement process and take advantage of the potential of genomics. This book serves as a thorough guide for researchers working with nanotechnology to address plant protection problems. Novel nanobiotechnology methods describe new plant gene transfer tools that improve crop resistance against plant diseases and increase food security. Also, quantum dots (QDs) have emerged as essential tools for fast and accurate detection of particular biological markers. Biosensors, QDs, nanostructured platforms, nanoimaging, and nanopore DNA sequencing tools have the potential to raise sensitivity, specificity, and speed in pathogen detection, thereby facilitating high-throughput analysis and providing high-quality monitoringand crop protection. Also, this book deals with the application of nanotechnology for quicker, more cost-effective, and precise diagnostic procedures of plant diseases and mycotoxins. Applications of nanotechnology in plant pests and disease control, antimicrobial mechanisms, pesticides remediation and nanotoxicity on plant ecosystem and soil microbial communities are discussed in detail. Moreover, the application of specific nanomaterials including silver, copper, carbon- or polymer-based nanomaterials and nanoemulsions is also mentioned. Crops treated with safe nanofertilizers and nanopesticides will gain added avlue because they are free of chemical residues, decay and putative pathogens for human health, sustaining the global demand for high product quality. .