

1. Record Nr.	UNINA9911039326303321
Autore	Bachheti Rakesh Kumar
Titolo	Copper-Based Nanomaterial for Agricultural Practices / / edited by Rakesh Kumar Bachheti, Archana Bachheti, Azamal Husen
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2025
ISBN	9789819686100 9789819686094
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (313 pages)
Collana	Smart Nanomaterials Technology, , 3004-8281
Disciplina	620.5 660.6
Soggetti	Nanobiotechnology Nanomedicine Agricultural biotechnology Nanomedicine and Nanotoxicology Agricultural Biotechnology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction to Copper-Based Nanomaterials in Agriculture -- Synthesis, Properties and Characterization Techniques for Copper-Based Nanomaterials -- Environmental Impacts of Copper-Based Nanomaterials in Agriculture -- Toxicity and Safety Concerns of Copper-Based Nanomaterials in Agriculture -- Synthesis and application of Copper nanofungicides -- Role of Copper nanomaterials for pesticide detection -- Applications of Copper-Based Nanomaterials in Crop Production -- Use of Copper-Based Nanomaterials in Organic Agriculture -- Role of Copper-Based Nanomaterials in Soil Remediation -- Use of Copper-Based Nanomaterials for Nutrient Delivery and Uptake -- Copper-Based Nanomaterials for Enhanced Photosynthesis and Light Harvesting -- Use of Copper-Based Nanomaterials in Seed Germination and Plant Growth -- Copper-Based Nanomaterials for Control of Plant Pathogens and Diseases -- Use of Copper-Based Nanomaterials in Post-Harvest Management -- Copper-Based Nanomaterials in Agricultural Wastewater Treatment -- Use of copper nanomaterials against nematodes -- Effect of Copper-Based

Nanomaterials on Soil Microbial Communities -- Copper-Based Nanomaterials for Precision Agriculture and Smart Farming -- Future Prospects of Copper-Based Nanomaterials in Agriculture.

Sommario/riassunto

This book provides an in-depth analysis of the latest research on copper-based nanomaterials in agriculture. It explores the properties and characteristics of these materials, along with the methods used for their synthesis and characterization. The book delves into the various applications of copper-based nanomaterials in agricultural practices, assessing both their benefits and challenges. It also addresses concerns about their potential toxicity and environmental impact, offering strategies for minimizing these risks. Additionally, the book discusses the challenges that need to be overcome to ensure the safe and effective use of copper-based nanomaterials in agriculture. A valuable resource for researchers, academics, and professionals in agriculture and nanotechnology, this book provides a comprehensive and insightful understanding of the subject.