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Nota di contenuto	1. Antimicrobials in livestock production and its cross-domain dynamics -- 2. Antibiotics and resistance in environment -- 3. Antimicrobials in agriculture and its implications in antimicrobial resistance -- 4. Modern diagnostic tools for rapid detection of multidrug resistance -- 5. The use of antimicrobials in agriculture and socio-economic considerations in a global world -- 6. Epidemiology of microbial infections -- 7. Socioeconomic impact of antimicrobial resistance and their integrated mitigation by One Health approach -- 8. Regulations in antimicrobial drug development: Challenges, and new incentives -- 9. New insights into and updates on antimicrobial agents -- 10. Polyphenols as emerging antimicrobial agents -- 11. Antimicrobial peptides and small molecules as antibiotics substitute -- 12. Molecular mechanisms of antimicrobial resistance in S. aureus biofilms -- 13. Antimicrobial resistance: Meaning and developing realization -- 14. Chemical diversity in fungi: strategies to mitigate

antimicrobial resistance -- 15. Phage therapy as an alternative treatment in the fight against AMR: Real-world problems and possible futures -- 16. Omics and in-silico approaches in the surveillance and monitoring of antimicrobial resistance -- 17. Antimicrobial activity of bioactive compounds (Thymoquinone & Eugenol) and its nanoformulations therapeutic potential -- 18. Nanoparticles as a future alternative against multiple drug resistance -- 19. Nano-cargos boarded defensins to combat multi-drug resistance -- 20. Implementation of nano-vehicles to disguise and fight multi-drug resistance -- 21. Silver nanoparticles as potent multi-drug resistant in-corporants in biomedicine -- 22. Role of gold nanoparticles against bacterial multidrug resistance (MDR): An emerging therapeutic revolution -- 23. Carbon nanoparticles: A potential cost-effective approach to counter antimicrobial resistance -- 24. Antimicrobial interfaces as augmentative strategy against antimicrobial resistance -- 25. Nano-Strategies against rising antimicrobial resistance (AMR): Metallic nanoparticles as nano-weapon. .

Sommario/riassunto

This book provides an overview of cutting-edge and next-generation research and technologies for combating antimicrobial resistance. Antibiotic-resistant infections are projected to cause 10 million deaths annually by the year 2050. A sustainable, unified approach by researchers, practitioners, policymakers, and the public is urgently needed to stem this trend. This book aims to provide a comprehensive summary of current and future-facing efforts to mitigate the threat of AMR through a One-Health approach. This book is a valuable resource for students, researchers, policymakers, and the public about AMR and novel strategies to combat AMR.