

|                         |   |
|-------------------------|---|
| 1. Record Nr.           | UNINA9910678258103321   |
| Titolo                  | Micro and Nanoplastics in Soil : Threats to Plant-Based Food // Naga Raju Maddela, Kondakindi Venkateswar Reddy, and Pabbati Ranjit, editors  |
| Pubbl/distr/stampa      | Cham, Switzerland : , : Springer, , [2023]<br>©2023   |
| ISBN                    | 3-031-21195-2   |
| Edizione                | [First edition.]  |
| Descrizione fisica      | 1 online resource (439 pages)   |
| Disciplina              | 363.738   |
| Soggetti                | Microplastics<br>Soil pollution   |
| Lingua di pubblicazione | Inglese   |
| Formato                 | Materiale a stampa  |
| Livello bibliografico   | Monografia  |
| Nota di bibliografia    | Includes bibliographical references and index.  |
| Nota di contenuto       | Part1. Soil Pollution by Micro and Nanoplastics -- Chapter1. Soil Pollution by Micro and Nanoplastics: An overview -- Chapter2. Soil Pollution by Micro and Nanoplastics: Sources, Fate and Impact -- Chapter3. Abundance and Distribution of MPs and NPs in Soil – A Global Scenario -- Chapter4. Methodology of assessing micro plastics and nano plastics in the environment -Recent advances in the practical approaches -- Chapter5. Persistence of Micro and Nanoplastics in Soil -- Chapter6. Microplastics as a carrier of antibiotic resistance genes - a revision of literatureiz -- Part2. Trophic transfer of Micro and Nanoplastics -- Chapter7. Phytoaccumulation of Micro and Nanoplastics: Root Uptake -- Part3. Toxicity of Micro and Nanoplastics -- Chapter8. Toxicity Effects of Micro and Nanoplastics in Terrestrial Environment -- Chapter9. Ecological Impacts and Toxicity of Micro and Nanoplastics in Agroecosystem -- Chapter10. Micro and Nanoplastics on Plant Functionalities -- Chapter11. Cellular and Animal Toxicities of Micro and Nanoplastics -- Part4. Bioremediation of Micro and Nano plastics- polluted soil -- Chapter12. Restoration of Micro/Nanoplastics-contaminated Soil by Phytoremediation -- Chapter13. Bacterial Remediation of Micro/Nanoplastics-contaminated soil -- Chapter14. Mycoremediation of Micro and Nano Plastics (MNPs) – contaminated Soils -- Chapter15. Emerging Techniques for the |

Sommario/riassunto

This contributed volume gives a state-of-the-art overview of microplastics and nanoplastics (MPs and NPs) in soils and their relationship with growing plants. Through chapters contributed by a wide variety of researchers, the book offers readers an understanding of MP and NP adsorption, uptake, and effects, as well as implications for trophic transmission, food safety, and security. Cutting-edge topics such as trophic transfer and remediation of MPs and NPs in soil samples are also addressed. The book begins with a primer on terrestrial MPs and NPs, their effects on terrestrial plants, and how these contaminants affect human populations. From there, the volume is split into four sections which address both problems caused by MPs and NPs in soil and potential remediation solutions. The first section deals with the mechanics of how MPs and NPs pollute soils and how toxic chemicals affect the soil profile and its flora, fauna and microbes. The second section of the book discusses trophic transfer of MPs and NPs from roots to shoot, shoot to leaves, and then to fruits. The third section details the threats to humans that are present as a result of MPs and NPs in soils. The fourth and last section gives covers bioremediation techniques that can be employed in order to reclaim polluted soils.

---