



**Plant-Based Natural Products**-Shahid Ul-Islam 2017-07-18 Intense research has been started all around the world in the past few decades to exploit different agents from natural products as eco-friendly alternative to synthetic and toxic chemicals. Natural products and their derivatives have received increasing attention for their use in many everyday applications ranging from food, medicine, textiles, and healthcare. This new book presents significant research advances about the use of natural products, mainly plant colorants, bioactive compounds and other plant extracts in the textile coloration, food, bioremediation and environmental applications. There are total eight chapters contributed by leading researchers covering the topics such as potential resurgence of natural dyes in applied fields, natural colorants from indigoid plants, phytochemistry of dye yielding plants, irradiation as novel pretreatment methods, dyeing studies with henna plant, phytoremediation of arsenic, and synthesis of curcumin complexes for medicinal and other industrial uses.

**Removal of Toxic Pollutants through Microbiological and Tertiary Treatment**-Maulin P. Shah 2020-08-20 Removal of Toxic Pollutants through Microbiological and Tertiary Treatment: New Perspectives offers a current account of existing advanced oxidation strategies - including their limitations, challenges, and potential applications - in removing environmental pollutants through microbiological and tertiary treatment methods. The book introduces new trends and advances in environmental bioremediation technology, with thorough discussion of recent developments in the field. Updated information as well as future research directions in the field of bioremediation of industrial wastes is included. This book is an indispensable guide to students, researchers, scientists, and professionals working in fields such as microbiology, biotechnology, environmental sciences, eco-toxicology, and environmental remediation. The book also serves as a helpful guide for waste management professionals and those working on the biodegradation and bioremediation of industrial wastes and environmental pollutants for environmental sustainability. Introduces various treatment schemes, including microbiological and tertiary technologies for bioremediation of environmental pollutants and industrial wastes Includes pharmaceutical wastewater, oil refinery wastewater, distillery wastewater, tannery wastewater, textile wastewater, mine tailing wastes, plastic wastes, and more Describes the role of relatively new treatment technologies and their approaches in bioremediation, including molecular and protein engineering technologies, microbial enzymes, bio surfactants, plant-microbe interactions, and genetically engineered organisms Provides many advanced technologies in the field of bioremediation and phytoremediation, including electro-bioremediation technology, microbial fuel cell technology, nano-bioremediation technology, and phytotechnologies

**Biomanagement of Metal-Contaminated Soils**-Mohammad Saghir Khan 2011-08-30 Heavy-metal contamination is one of the world's major environmental problems, posing significant risks to agro-ecosystems. Conventional technologies employed for heavy-metal remediation have often been expensive and disruptive. This book provides comprehensive, state-of-the-art coverage of the natural, sustainable alternatives that use a wide range of biological materials in the removal/detoxification of heavy metals, consequently leading to the improvement of crops in these soils. Novel, environmentally friendly and inexpensive solutions are presented based on a sound understanding of metal contamination and the roles of plants and microbes in the management of these toxic soils. Written by worldwide experts, the book provides not only the necessary scientific background but also addresses the challenging questions that require special attention in order to better understand metal toxicity in soils and its management through bioremediation.

**Transition Elements—Advances in Research and Application: 2012 Edition**- 2012-12-26 Transition Elements—Advances in Research and Application: 2012 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Transition Elements. The editors have built Transition Elements—Advances in Research and Application: 2012 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Transition Elements in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Transition Elements—Advances in Research and Application: 2012 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>.