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Nota di contenuto	Chapter 1. Sustainable agricultural approaches for enhanced crop productivity, better soil health and improved ecosystem services -- Chapter 2. Ecologically Sound and Practical Applications for Sustainable Agriculture -- Chapter 3. Destruction of soil health and risk of food contamination by application of chemical fertilizer -- Chapter 4. Impacts of Synthetic Pesticides on Soil Health and Non-Targeted Flora and Fauna -- Chapter 5. Ecological consequences of genetically modified crops on soil biodiversity -- Chapter 6. Application of Biochar in Agriculture: A Sustainable Approach for Enhanced Plant Growth, Productivity and Soil Health -- Chapter 7. Role of starch polymer coated urea in the mitigation of greenhouse gas emissions from rice and wheat ecosystems -- Chapter 8. Suitability of Coupling Application of Organic and Inorganic Fertilizers for Crop Cultivation -- Chapter 9. Composting: an ecofriendly technology for sustainable agriculture -- Chapter 10. Nanoparticles: An Emerging Trend in Modern

Agriculture System -- Chapter 11. Agri-nanotechnology for sustainable agriculture -- Chapter 12. Suitability of fly ash amendment in soil for productivity of agricultural crops -- Chapter 13. Trichoderma: a multifacet fungus for sustainable agriculture -- Chapter 14. Biochar amendment in agricultural soil for mitigation of abiotic stress -- Chapter 15. Mitigation of salinity stress by using the vermicompost and vermiwash -- Chapter 16. Case Studies on Cultural Eutrophication-- Watersheds Around Lakes that Contribute to Toxic Blue-Green Algal Blooms -- Chapter 17. Agricultural Practices Contributing to Aquatic Dead Zones -- Chapter 18. Mining, Agriculture Change, and Resilience: Reflections from Indigenous Knowledge in Anthropocene -- Chapter 19. Role of Indian Seed Industry for Promoting Food & Nutritional Security and Agricultural Sustainability -- Chapter 20. Farmers Varieties and Ecosystem Services with Reference to Eastern India -- Chapter 21. Ensuring Food Security By Good Seed Governance: A case study From Jharkhand.

Sommario/riassunto

Rampant industrialization, urbanization, and population growth have resulted in increased global environmental contamination. The productivity of agricultural soil is drastically deteriorated and requires a high dose of fertilizers to cultivate crops. To ensure food security, farmers are compelled to apply excess chemical fertilizers and insecticides that contaminate soil, air, and water. Heavy loads of chemical fertilizers not only degrade the quality of agricultural land but also pollute water and air. Use of chemical fertilizers also accelerate the release of greenhouse gases like nitrous oxide and methane along with nutrient runoff from the watershed in to lower elevation rivers and lakes, resulting in cultural eutrophication. Farming practices globally in developed, developing, and under-developing countries should utilize and promote sustainable methods through viable combined environmental, social, and economic means that improve rather than harm future generations. This can include use of non-synthetic fertilizers like compost, vermicompost, slow-release fertilizers, farmyard manures, crop rotations that include nitrogen-fixing legumes. Organic fertilizers like compost and vermicompost improve soil properties like texture, porosity, water-holding capacity, organic matter, as well as nutrient availability. The purpose of this book is to document the available alternatives of synthetic fertilizers, their mode of action, efficiency, preparation methodology, practical suggestions for sustainable practices, and needed research focus. The book will cover major disciplines like plant science, environmental science, agricultural science, agricultural biotechnology and microbiology, horticulture, soil science, atmospheric science, agro-forestry, agronomy, and ecology. This book is helpful for farmers, scientists, industrialists, research scholars, masters and graduate students, non-governmental organizations, financial advisers, and policy makers.
