

Biological Approaches to Sustainable Soil Systems

Edited by Norman Uphoff, Andrew S. Ball, Erick Fernandes, Hans Herren, Olivier Husson, Mark Laing, Cheryl Palm, Jules Pretty and Pedro Sanchez
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- Integrates soil system analysis with the strategies and methods for creating sustainable soil systems
- Compiles the work of more than 100 international authorities representing a broad spectrum of disciplines
- Explores soil systems in the tropics, temperate zones, and arid and semi-arid conditions
- Relates the subject to wider social and economic issues

Global agriculture is now at the crossroads. The Green Revolution of the last century, which helped developing countries meet their food needs for several decades, is now losing momentum. Rates of growth in food production are now declining, with land and water resources becoming scarcer, while world population continues to grow. We need to continue to identify and share the knowledge that will support successful and sustainable agriculture systems in this new century. These depend crucially on soil.

Biological Approaches to Sustainable Soil Systems brings together 102 experts from multiple disciplines and 28 countries to report on the science and the innovation going on for sustainable soil-system management. While accepting some continuing role for chemical and other external inputs in 21st-century agriculture, this book presents a variety of ways in which crops can be produced more abundantly and more cheaply with lessened dependence on the exogenous resources that have driven the expansion of agriculture in the past.

Including the work of both researchers and practitioners around the world, Biological Approaches to Sustainable Soil Systems

- Explores problems and solutions for soil systems in a variety of climate conditions
- Discusses the importance of symbiotic relationships between plants and soil organisms, looking at crops as integral and interdependent participants in ecosystems
- Seeks to reduce the distance between scientific research and technical practice
- Examines related considerations such as pest and disease control, climatic change, methods for fertility restoration, and measurement, monitoring and modeling to improve soil-system management

With 50 self-contained chapters, this original work provides researchers, practitioners, planners, and policy makers with a comprehensive understanding of the science and steps needed to utilize soil systems for the long-term benefit of humankind and the environment.

Contents

PART I: Overview

- Understanding the Functioning and Management of Soil Systems; Norman

Uphoff, Andrew S. Ball, Erick C.M. Fernandes, Hans Herren, Olivier Husson, Cheryl Palm, Jules Pretty, Nteranya Sanginga, Janice E. Thies

- Soil System Management in the Humid and Subhumid Tropics; Ana Primavesi
- Soil System Management in Temperate Regions; G. Philip Robertson, A. Stuart Grandy
- Soil System Management under Arid and Semi-Arid Conditions; Richard J. Thomas, Hanadi El-Dessougi, Ashraf Tubeileh

PART II: Soil Agents and Processes

- The Soil Habitat and Soil Ecology; Thies, Julie M. Grossman
- Energy Inputs in Soil Systems; Ball
- The Rhizosphere: Contributions of the Soil - Root Interface to Sustainable Soil Systems; Volker Römheld, Günter Neumann
- The Natural Rhizobium - Cereal Crop Association as an Example of Plant - Bacteria Interaction; Frank B. Dazzo, Youssef G. Yanni
- The Roles of Arbuscular Mycorrhizas in Plant and Soil Health; Mitiku Habte
- Moving Up within the Food Web: Protozoa and Nematodes; Gregor W. Yeates, Tony Pattison
- Soil Fauna Impacts on Soil Physical Properties; Elisée Oué draogo, Abdoulaye Mando, Lijbert Brussaard
- Biological Nitrogen Fixation in Agroecosystems and in Plant Roots; Robert M. Boddey, Bruno J.R. Alves, Veronica M. Reis, Segundo Urquiaga
- Enhancing Phosphorus Availability in Low-Fertility Soils; Benjamin L. Turner, Emmanuel Frossard, Astrid Oberson
- Phytohormones: Microbial Production and Applications; Azeem Khalid, Muhammad Arshad, Zahir Ahmad Zahir
- Crop Genetic Responses to Management: Evidence of Root - Shoot Communication; Autar K. Mattoo, Aref Abdul-Baki
- Allelopathy and Its Influence in Soil Systems; Suzette R. Bezuidenhout, Mark Laing
- Animals as Part of Soil Systems; Alice N. Pell

PART III: Strategies and Methods

- Integrated Soil Fertility Management in Africa: From Knowledge to Implementation; Bernard Vanlauwe, Joshua J. Ramisch, Nteranya Sanginga
- Managing Soil Fertility and Nutrient Cycles through Fertilizer Trees in Southern Africa; Paramu L. Mafongoya, Elias Kuntashula, Gudeta Sileshi
- Biological Soil Fertility Management for Tree-Crop Agroforestry; Götz Schroth, Ulrike Krauss
- Restoring Productivity to Degraded Pasture Lands in the Amazon through Agroforestry Practices; Fernandes, Elisa Wandelli, Rogerio Perin, Silas Garcia
- Direct-Seeded Tropical Soil Systems with Permanent Soil Cover: Learning from Brazilian Experience; Lucien Ségué, Serge Bouzinac, Husson
- Restoration of Acid Soil Systems through Agroecological Management; Husson, Ségué, Roger Michellon, Stéphane Boulakia
- Conservation Agriculture and Its Applications in South Asia; Peter Hobbs, Raj Gupta, Craig Meisner
- Managing Soil Fertility on Small Family Farms in African Drylands; Michael Mortimore
- Restoring Soil Fertility in Semi-Arid West Africa: Assessment of an Indigenous Technology; Mando, Dougbedji Fatondji, Robert Zougmore, Brussaard, Charles L. Bielders, Christopher Martius
- Leguminous Biological Nitrogen Fixation in Sustainable Tropical Agroecosystems; Robert M. Boddey, Alves, Urquiaga
- Soil Biological Contributions to the System of Rice Intensification; Robert Randriamiharisoa, Joeli Barison, Uphoff
- Contributions of Managed Fallows to Soil Fertility Recovery; Erika Styger, Fernandes
- Green Manure/Cover Crops for Recuperating Soils and Maintaining Soil Fertility in the Tropics; Roland Bunch
- Compost and Vermicompost as Amendments Promoting Soil Health; Allison L.H. Jack, Thies

- Practical Applications of Bacterial Biofertilizers and Biostimulators; Rafael Martinez Viera, Bernardo Dibut Alvarez
- Inoculation and Management of Mycorrhizal Fungi within Tropical Agroecosystems; Ramon Rivera, Felix Fernandez
- Trichoderma: An Ally in the Quest for Soil System Sustainability; Brendon Neumann, Laing
- Evaluation of Crop Production Systems Based on Locally Available Biological Inputs; O.P. Rupela, C.L.L. Gowda, S.P. Wani, Hameeda Bee
- Bio-Char Soil Management on Highly Weathered Soils in the Humid Tropics; Johannes Lehmann, Marco Rondon
- Improving Phosphorus Fertility in Tropical Soils through Biological Interventions; Astrid Oberson, Else K. Bünemann, Dennis K. Friesen, Idupulapati M. Rao, Paul C. Smithson, Benjamin L. Turne, Emmanuel Frossard
- Profile Modification as a Means of Soil Improvement: Promoting Root Health through Deep Tillage; Nico Labuschagne, Deon Joubert
- Rhizosphere Management as Part of Intercropping and Rice-Wheat Rotation Systems; Liu Xuejun, Li Long, Zhang Fusuo
- Managing Polycropping to Enhance Soil System Productivity: A Case Study from Africa; Zeyaur Khan, Ahmed Hassanali, John Pickett

PART IV: Related Issues

- Effects of Soil and Plant Management on Crop Pests and Diseases; Alain Ratnadass, Michellon, Richard Randriamanantsoa, Séguy
- Revegetating Inert Soils with the Use of Microbes; Gail Papli, Laing
- Impacts of Climate on Soil Systems and of Soil Systems on Climate; Rattan Lal
- Economic and Policy Contexts for the Biological Management of Soil Fertility; Sara J. Scherr
- Village-Level Production and Use of Biocontrol Agents and Biofertilizers; B. Selvamukilan, R. Rengalakshmi, P. Tamizoli, Sudha Nair
- Measuring and Assessing Soil Biological Properties; Thies
- Approaches to Monitoring Soil Systems; David Wolfe
- Modeling Possibilities for the Assessment of Soil Systems; Ball, Diego De la Rosa
- Opportunities for Overcoming Productivity Constraints with Biologically-Based Approaches; Uphoff
- Issues for More Sustainable Soil System Management; Uphoff, Ball, Fernandes, Herren, Husson, Palm, Pretty, Sanginga, Thies
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