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on Water Cycling; Improvement of Water Management in Agricultural Landscapes; Introduction of Shelterbelts
Restoration of Small Midfield Ponds Improving Soil Water Retention and Hydraulic Properties; Conclusions; References; 4 Nutrients as Limited Resources: Global Trends in Fertilizer Production and Use; Fertilizer Consumption; Evolution of Global and Regional Fertilizer Consumption since the 1960's; Evolution of the Product Mix and Organic Resources Recycling; Current Situation; Medium-Term Outlook for World and Regional Fertilizer Demand; Long-Term Projections for World Fertilizer Demand; Fertilizer Supply; Evolution of Production and Trade at the Global and Regional Levels since the 1960's
Current Situation Fertilizer Industry's Investment Climate and Capacity Developments; Medium-Term Outlook for World Fertilizer Supply and Supply-and-Demand Balances; Resource Management; Industrial Nitrogen; Phosphate Rock; Potash Ore; Challenges Facing the Fertilizer Industry; Nutrient-Use Efficiency; Developing and Delivering Fertilizer Best Management Practices; References; 5 The Flow of Phosphorus in Food Production and Consumption Systems; The Use of Phosphorus in Global Food Production; Key Challenges: Scarcity and Pollution; Phosphorus as a Scarce Global Resource
Phosphorus as a Pollutant Sustainable Pathways for Future Phosphorus Flows; Regional Example 1: Australia; Regional Example 2: Sweden; The Road Ahead; References; 6 Matching Soil Nutrient Supply and Crop Demand during the Growing Season; Introduction; Soil Supply of Nutrients; Principles Governing Soil Nutrient Supply; Availability of Nutrients to Plants; Crop Nutrient Demand; Demand for Phloem-Mobile Nutrients; Demand for Phloem-Immobile Nutrients; Amount of Nutrient Required; Matching Supply to Demand; Supply and Demand in Fertilizer Recommendation Systems
Positional Unavailability of Soil-Immobile Nutrients

Sommario/riassunto

Improving Water and Nutrient Use Efficiency in Food Production Systems provides professionals, students, and policy makers with an in-depth view of various aspects of water and nutrient us in crop production. The book covers topics related to global economic, political, and social issues related to food production and distribution, describes various strategies and mechanisms that increase water and nutrient use efficiency, and review te curren situation and potential improvements in major food-producing systems on each continent. The book also deals with problems experienced