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Introduction

Compounds Being DecomposedMicrobial Activities in Relation to Catabolism in Soil Systems; Microbial Abundance and Distribution in Soil; Techniques for Measuring Microbial Communities; Direct Measures of Numbers and Biomass; Indirect Measures of Biomass; Chemical Methods; The Chloroform Fumigation and Incubation (CFI) Technique; The Chloroform Fumigation and Extraction (CFE) Technique; Physiological Methods: SIR Technique; Additional Physiological Methods of Measuring Microbial Activity; Enzyme Assays and Measures of Biological Activities in Soils

Direct Methods of Determining Soil Microbial ActivitySoil Sterilization and Partial Sterilization Techniques; Conceptual Models of Microbes in Soil Systems; Root-Rhizosphere Microbe Models and Experiments; Soil Aggregation Models; Models: Organism and Process-Oriented; Summary; 4 Secondary Production: Activities of Heterotrophic Organisms-The Soil Fauna; Introduction; The Microfauna; Methods for Extracting and Counting Protozoa; Distribution of Protozoa in Soil Profiles; Impacts of Protozoa on Ecosystem Function; The Mesofauna; Rotifera; Features of Body Plan and General Ecology; Nematoda Nematode Feeding HabitsNematode Zones of Activity in Soil; Nematode Extraction Techniques; Tardigrada; Microarthropods; Collembola; Families of Collembola; Population Growth and Reproduction; Collembolan Feeding Habits; Collembolan Impacts on Soil Ecosystems; Acari (Mites); Oribatid Mites; Abundance and Diversity of Oribatid Mites; Population Growth; Oribatid Feeding Habits; Oribatid Impacts on Soil Ecosystems; Prostigmatic Mites; Mesostigmatic Mites; Astigmatic Mites; Other Microarthropods; Protura; Diplura; Microcoryphia; Pseudoscorpionida; Symphyla; Pauropoda; Enchytraeidae; The Macrofauna

Macroarthropods

Sommario/riassunto

This fully revised and expanded edition of Fundamentals of Soil Ecology continues its holistic approach to soil biology and ecosystem function. Students and ecosystem researchers will gain a greater understanding of the central roles that soils play in ecosystem development and function. The authors emphasize the increasing importance of soils as the organizing center for all terrestrial ecosystems and provide an overview of theory and practice of soil ecology, both from an ecosystem and evolutionary biology point of view. This volume contains updated and greatly expanded coverage of all be