BOOK REVIEWS

New Books Received


Water for Life: Water Management and Environmental Policy in the Soil–Plant System


Soil is a fundamental requirement of life on earth. Most plants rely on soil for physical support and supply of elements (i.e., sulfur, calcium, and magnesium), trace and toxic elements (e.g., copper, zinc, boron, lead, arsenic, etc.), and matter flow, dynamics of organic and inorganic matter, and biological activities within the network system. To understand the complex processes and transfer of radionuclides in the soil-plant system and the corresponding modeling approaches, concepts, and application examples are presented in these chapters. The book makes it quite valuable.

The book can be divided into five parts. Chapters 1 and 2 review the physical, chemical, and biological approaches of all essential soil matter including water, nutrition, and productivity. Chapters 3 and 4 describe humic substances, radioactivity, and soil formation and degradation processes. Chapter 4 reviews results on the conformational structure of humic substances. The formation processes of parental material, lower soil horizons and the corresponding modeling approaches are discussed in Chapter 5. The deposition, behavior, and transfer of radionuclides in the soil-plant system and the corresponding modeling approaches are given in Chapters 6 through 9. Focus on soil degradation processes, soil acidification, alkalinization, and wind and corresponding modeling approaches.

Chapters 10 through 19 describe the dynamics of all essential soil matter, including carbon dioxide, organic matter, major nutrients (nitrogen, phosphorus, and potassium), secondary nutrients (calcium, magnesium, sulfate), and heavy metals such as lead, arsenic, cadmium, and zinc, as well as the corresponding modeling approaches.