BOOK REVIEWS


Soil and water conservation is an integral part of profitable and sustainable agriculture worldwide. In the last 50 yr, great advances have been made in our ability to conserve our resources by implementation of various management measures. These measures have become embedded in resource conservation policies that are promoted worldwide and in many areas, legislated. With the growth of soil and water conservation technology and its importance to the general public as a whole, there is an array of associated options and guidelines. As a result, the terminology for the various practices, conditions, and policies can be confusing and lead to misunderstanding and misinterpretation. There is, thus, a need for a handbook of definitions associated with soil and water conservation methods. This book fills that need admirably.

This handbook is basically a reference dictionary or encyclopedia of historical and current practices, conditions, terms, and polices related to soil and water conservation. There are over 700 main and suborder entries, which provide concise definitions as related to soil and water conservation. The book provides a compilation and ready reference of information related to soil and water conservation. By avoiding highly detailed and technical discussion of each term, it is a ready source of definitions and information for laypersons as well as experts in the conservation area. This is an excellent project that has been carefully put together to produce a valuable compilation.

Like many other scientific areas that have become of public concern, soil and water conservation terminology is often misused. This can lead to misdirected policy as well as interpretation and application of research findings. This handbook goes a long way to bridging this gap. In fact, it should be a model for other disciplines to follow.

Widely used terms such as no tillage, reduced tillage, minimum tillage, conservation tillage, limited tillage, conservation agriculture, and conventional tillage are clearly defined in the handbook. There are 80 main entries listed alphabetically, which range from Agriculture, Desert Torrent, Freeze–Thaw Cycle, Infrastructure, Phreatophyte, Runoff Stripper Header, Traffic Ruts, to Woodland. For example, Agriculture is subdivided into 8 major sections: General Agriculture, Agricultural Operations, Soil Loss, Conservation Tillage, Crop Practices, and Conservation Measures.

Soil and Water Contamination: From Molecules to Catchment Scale

As we are all well aware, soil and water contamination by many inorganic and organic pollutants is of critical importance to the sustainability of ecological systems. There is often confusion about the concentration of contaminants associated with human activities that degrade soil and water quality, leading to decreased productivity and use. This book briefly describes the transport and fate processes of environmental contaminants and how an understanding of these concepts can aid in the development of soil, surface, and groundwater contamination. It is based on undergraduate teachings to students of the “Introduction to Water Pollution” courses of the Faculty of Geosciences, Utrecht University, The Netherlands.

The book has four sections. (i) An introduction to water degradation, which presents the fundamentals of environmental contamination and basic physiochemical properties of soil and water. (ii) Sources, rate, and behavior of substances in soil and water, which cover natural and anthropogenic physiochemical characteristics, behavior and toxicity of heavy metal radionuclides, and organic pollutants. (iii) Transport processes of substances in soil and water, including production of transport, exchange, and transformation in soil and how they can be described by models. (iv) Pollution standards in soil and water, which expands earlier sections and presents practical applications that address spatial and temporal pollutant patterns in soil and water. There are also including set of exercises and questions with each chapter to help the readers’ understanding of the concepts described in each chapter. Although a fundamental knowledge of soil science, and hydrology is assumed, a brief review of these topics is provided at the beginning of each chapter.