Drinking Water Health Advisory: Pesticides

U.S. Environmental Protection Agency, Office of Drinking Water Health Advisories, Lewis Publishers, 121 South Main Street, P.O. Drawer 519, Chelsea, MI 48118. 1989. 819 p. $79.95.

The USEPA issues Drinking Water Health Advisories (HAs) for a variety of inorganic, pesticide, and nonpesticide organic contaminants of water. The HAs are developed for contaminants that (i) have the potential to cause adverse health effects in exposed humans and (ii) are known to occur or might reasonably be expected to occur in drinking water supplies. Information included in HAs serves to provide technical guidance to public health officials (and water system operators, assumedly) on health effects, analysis methodologies, and treatment technologies during emergency situations involving drinking water contamination.

This book is a compilation of the HAs for the pesticides identified as the most probable drinking water contaminants. Each HA includes (i) physicochemical properties and agricultural uses for the pesticide, (ii) a summary of the available data concerning the occurrence in water, pharmacokinetics, and health effects, (iii) analytical methods and treatment technologies. Health effects data are used to estimate HAs, the concentrations of the pesticide in drinking water that are not anticipated to cause adverse noncarcinogenic effects over one day, ten days, longer term, or a lifetime. Where the pesticide is classified as a known or probable human carcinogen, mathematical models are used to estimate cancer risk associated with lifetime ingestion of contaminated water.

The introduction contains a brief but excellent description of the methods used for estimation of the HA concentrations and assessment of carcinogenic risk. The content of the HA for each pesticide varies, due to the lack of data in certain areas for some pesticides, but most contain at least some information in each section.

This book should be of interest to anyone involved in the pesticide/water quality area, and especially those concerned with the day-to-day protection of drinking water. Because it is a compilation of technical material, this is not a book that lends itself to straight-through informative reading. Instead, it should serve as a resource for those who need immediate access to the type of data it contains. One problem: HAs may be updated rapidly enough to render this book obsolete within a year or two (and it is expensive), but this may not be a major disadvantage for those persons with no ready access to water contaminant information.—MARK M. LOUX, Agronomy Department, The Ohio State University, Columbus, OH 43210.

Cellulose Decomposition and Soil Fertility


Cellulose and hemicellulose are major components of plant mass, hence the author's choice for a title of this book. Cellulose occurs in the greatest quantities among the macromolecules, about one-third of the primary plant production is cellulose. Microbes, bacteria play the leading role in its decomposition. The products of such activities (of toxic organics) with Porous Media; Part IV: Petroleum Hydrocarbons; Part V: Restoration of the Unsaturated Zone and Groundwater. Each part is preceded by introductory comments. There is a detailed table of contents, a subject index that facilitates easy subject look-up. The conference must have been very informal, the papers were intellectually stimulating (read: fun). Not only were top quality scientists present, but they were apparently selected to represent a wide range of (sometimes conflicting) problems. Some are optimists (we can cope with toxic organics if we are alert), and those who emphasize the inorganic fraction of soil as the prime toxicant (which we must be cautious and concerned about). There are those who focus on the organic fraction of soil as the prime toxicant, and those who emphasize the inorganic fraction. The introduction is followed by papers describing real world restoration and monitoring experiments.

I found the book rewarding scientifically and well-prepared. It is valuable reading for soil scientists, agronomists, chemical engineers, and all scientists concerned with the environment, particularly those who understand the importance of chemical reactions.—GEORGE A. O'CONNOR, Dept. of Agronomy and Horticulture, New Mexico State University, Las Cruces, NM 88003.

Toxic Organic Chemicals in Porous Media

(Ecological Studies, Vol. 73)


The book is a selection of talks presented at the Second International Workshop on the Behavior of Pollutants in Porous Media sponsored by the International Union of Pure and Applied Chemistry (IUPAC) and the International Association of Hydrological Sciences (IAHS). The workshop was held in Israel in June 1987. Only toxic organics are discussed here. The book contains 72 papers, which are divided into five parts. Part I: The Problem; Part II: Physicochemical and Biological Interactions (of toxic organics) with Porous Media; Part III: Pesticides in Porous Media; Part IV: Petroleum Hydrocarbons; Part V: Restoration of the Unsaturated Zone and Groundwater. Each part is preceded by introductory comments. There is a detailed table of contents, a subject index that facilitates easy subject look-up.