Pesticides in the Environment, Vol. 2


This book is the second of a three-volume compendium addressing the general topic of pesticides in the environment. Volume I consists of two separate parts and deals primarily with the more theoretical aspects of pesticide chemicals. The seven chapters of Volume I deal with the chemistry and biology of pesticides, the metabolism of insecticides, herbicides, and fungicides, and the analysis and toxicology of pesticides and their formulations. The two parts are, for the most part, written in scientific jargon and, hence, are more easily understood by the practicing scientist than by the layman.

In Volume II however, the editor and contributing authors have produced a treatise focusing primarily on the practical aspects of pest control. This volume is comprised of four chapters, each is prefaced by an outline, a practice which should be appreciated by the reader who is interested in only a portion of the chapter in question. Chapter 1, "The Role of Fungicides in Crop Production", considers in a general manner the history of plant pathology, the causes, symptoms, and control of plant diseases, and the principles and methods of nematode control. Names, designations, structural and empirical formulas, manufacturer, and recommended use of 19 commercial nematocides are included in tabular form. Chapter 2, "Nematode Diseases of Plants and Their Control Including the Important Role of Nematocides", covers the general characteristics of nematodes, their relationships with plants, their interaction with fungi, bacteria, and viruses in causing plant diseases, and the principles and methods of nematode control. Names, designations, structural and empirical formulas, manufacturer, and recommended use of 19 commercial nematocides are included in tabular form. Chapter 3, "Nematode Diseases of Plants and Their Control Including the Important Role of Nematocides", covers the general characteristics of nematodes, their relationships with plants, their interaction with fungi, bacteria, and viruses in causing plant diseases, and the principles and methods of nematode control. Names, designations, structural and empirical formulas, manufacturer, and recommended use of 19 commercial nematocides are included in tabular form. Chapter 4, "The Role of Nematodes in the Control of Ectoparasites in Domestic Livestock and Pests", considers both the diversity and control of ectoparasites on bovines, ovines, caprines, equines, swine, canines, felines, and avians. The life cycles of most common parasites are explained in a manner clearly understandable by those interested in nematode control. An appendix table with the recommended pesticide, formulation, method and rate of application, permissible tolerance, and pertinent remarks for the control of a wide variety of pests to beef and dairy cattle, swine, sheep and goats, horses, poultry, and turkeys, is included.

References range in number from 238 for Chapter 1 to 24 for Chapter 2 and are, unfortunately, presented in the short form. This requires less space but provides less information to the user than the format which includes the full article title. All tables, structural and empirical formulas, and photographs are very well done.

Volume 2 of Pesticides in the Environment represents a very well-organized, easily understood book which should enjoy widespread usage by professional and lay people alike. The single possibly negative aspect of the volume is the result of omission rather than commission in that, while Chapters 1 and 2 deal very well with the role of fungicides and nematocides in disease prevention and control, two immensely important and widely-used groups of pesticide chemicals, insecticides and herbicides, are ignored. It must be realized, however, that the area of pesticides and their use in the environment is monstrous in stature, and that the detailed coverage of all aspects is, for all practical purposes, impossible. The cost may limit, to some degree, the use of this volume by individual farmers, homeowners, or gardeners, but its use will certainly be of benefit to those for whom it is available.—WILLIAM W. WALKER, Microbiology Section, Gulf Coast Research Laboratory, Ocean Springs, MS 39564.

Pesticides in the Environment, Volume 3


Pest problems and practical control methods of these pests are discussed for three varied areas of pest management. Pesticide use areas included are weed science, forest management, and stored grain insects. The book should prove most useful to pest management consultants and those individuals interested in a condensed review of any one of the three areas covered. Data on the pest problems in the three areas will be valid for some years, but practical control suggestions—especially pesticide control procedures which are stressed—will become outdated, due to the many research and regulatory programs underway. However, rapid changes in control procedures for pest management fields require periodic updates, progress reports, or analyses of the state of the science as provided in this book.

The first chapter includes background data on weed losses, diversity among weed species, weed control procedures, and herbicide properties and uses. Emphasis is on chemical control procedures, with only a terse mention of other control methods. Herbicides are classified as to application methods, selectivity, use in various crops and noncrop situations, and chemical structure and properties. There is a short discussion of factors influencing herbicide performance. The author has given a condensed review of herbicidal control of weed problems. Data on the active field of weed science will undergo numerous changes during the next decade which will require constant updating of knowledge by the practicing weed control specialist. This chapter is an excellent treatise of present chemical weed control procedures.

Pest management in forests is reviewed in an interesting, informative, and well-illustrated chapter. It provides excellent background information for those interested in pest management methods and needs in forests, and cites numerous references for those readers interested in additional information on specific topics. Many illustrative examples of forest management problems are given as control methods are being discussed. Insect control problems occupy the bulk of the discussion. The many factors influencing pest control in forests are discussed, and the pros and cons of control methods are analyzed as part of the decision-making process in forestry management. As greater recreational and lumber demands are experienced, the need for pest management in forests will become more intense, and compromises must be made.

Losses from grain storage pests and conditions favoring their introduction, increase, and development are discussed. The authors concentrate their discussion on insect pests, with an occasional mention of rodents, birds, and birds. Insect control procedures in stored grain are outlined and discussed, with chemical control procedures being emphasized. This informative chapter would be excellent reading for individuals responsible for grain storage and mill care.—ORVIN D. HAM, Department of Agronomy, University of Nebraska, Lincoln, NE 68583.