
Nineteen different contributors have combined their talents to prepare a second edition of this book. Five of the 23 chapters were written by G. Harold Smith.

The broader aspects of various conservation problems as they are related to the economic utilization of natural resources are presented. The subject matter includes many different disciplines. Problems related to renewable and nonrenewable resources are recognized and the economics of alternative procedures for resource utilization is emphasized in many places.

This book is divided into 8 parts. Part 1 consists of three chapters which provide information on the "History and Development of Conservation in America," "The Public Domain and its Disposal," and the interaction of "Economics and Conservation." Part 2 is devoted quite largely to a discussion of soil resources, irrigation, and drainage. The titles of the five chapters in this section are "The Great Soil Groups and Their Utilization," "Soil Conservation," "Irrigation in the United States," "Reclamation of Wet and Overflow Lands," "Grassland Resources," and "The Land We Possess." The titles of the two chapters in part 3 are "Our Forestry Resources," and "The Method of Forest Conservation." Part 4 is confined principally to a discussion of water resources. The four chapters in this section are "Water Supply for Domestic and Industrial Uses," "Water Power and its Conservation," "Our Watersheds," and "Their Utilization and Floods and Flood Control." Part 5 is concerned with mineral resources. The two chapters are "Conservation of Mineral Resources" and "Mining Fuels." Wildlife conservation is discussed in the two chapters in part 6. The titles of these chapters are "Conservation of Wildlife," and "Fisheries for the Future," "Recreational Resources," and "Conservation of Man" are the titles of the two chapters in part 7. State and local planning, and national planning, and the conservation of resources are discussed in part 8.

A history of resource utilization as it applies to renewable or nonrenewable resources is brieferly presented in most of the chapters, followed by a discussion of economic factors that have influenced wasteful exploitation and by comments concerning procedures that are being used or could be used to solve the various conservation problems.

More than 500 references appear as footnotes or at the ends of the various chapters. These include a large number of recent books on various phases of resource conservation.—Horace J. Harper, Oklahoma State University.


Ecology has been criticized by workers in other biological disciplines, such as genetics and physiology, because of its lack of quantitative procedures. A perusal of this book will reveal that techniques are now being developed which will aid materially in the transition of ecology from the qualitative to the quantitative stage.

In the early chapters, the author emphasizes the importance of sound methods of describing vegetation. He discusses concepts of frequency, density, and pattern, with suggestions on sampling and appropriate statistical analyses.

A chapter devoted to association between species takes up two methods of analysis, correlation between quantitative measures of the two species and the use of presence or absence data which may be tested by the chi-square method. A consideration of correlation of vegetation differences with environmental factors is given. Here, the author emphasizes the importance of choosing the best sampling procedure to use in measuring the qualitative or quantitative differences. About 250 references to manufacturers, categories of data which are quantitative for both the environmental and plant factors, sampling may be systematic. In most cases it is reasonable to assume that the level of the environmental factor is exerting a controlling influence on the abundance of the plant. Regression analyses, therefore, usually are more appropriate than correlation.

In the chapter on plant communities, the author considers two theories: (1) the community as an organism, and (2) the community as a vegetation continuum. He favors the latter and believes there is much promise in the approach of Curtis and his associates at Wisconsin, who have used the importance value and continuum index method in vegetation analysis. Whitaker's gradient analysis approach also is discussed.

The last chapter is devoted to a summary of the author's views on the quantitative approach to ecological problems, with a discussion on vegetation pattern as related to succession and climax. He wisely cautions the reader "to keep a sense of perspective and to consider whether the time consumed by the use of quantitative instead of qualitative methods will give a commensurate increase in the value of the results obtained."

The ecologist or agronomist who has a flair for statistics should find the book most interesting. It would appear to be a welcome step toward a more quantitative concept of plant ecology.—C. P. Wilkie, Iowa State College.

HANNA'S HANDBOOK OF AGRICULTURAL CHEMICALS. SECOND EDITION. Edited and Published by Lester W. Hanna, R. I., Box 210, Forest Grove, Oregon, 1958. 489 pp. Illus. $5.95.

This handy volume is literally packed with valuable information. Though of primary value to entomologists and pest eradicators, the information it contains is often essential to the operations of the general or special farmer, and may be useful to the research worker with some special problem.

The properties and uses of almost 2,000 chemicals are described in seven chapters (317 pages) with the titles: Fertilizers, Fungicides, Herbicides, Insecticides, Livestock Chemicals, and Rodenticides. A Miscellaneous chapter gives information on aerosol propellants, electronic devices, food radiation, biological insect control and other subjects. The scope of the book is further indicated by the titles of the subsections in the chapter on Livestock Chemicals. These include: Systemics, Antibiotics, Vitamins, Minerals, Nutrients, Hormones, Tranquilizers, Screw Worm Smears, and others.

The book is printed in easily readable type on heavy paper and is well bound. It has numerous illustrations, including two spray charts in colors.

Some of this abundance of information is unavoidably out of place, either within the book or by being included at all. But, since so much of it is properly included and properly placed, the volume should prove useful to many readers.—HLH


This edition retains the arrangement of the first two and covers husbandry under twelve headings: Rotations, Manuring, Cleaning, Tillage, Preparation of the Seedbed, Choice and Treatment of Seed, Sowing, after Sowing, Seed, After-Cultivation, The Corn Harvest, Harvesting by Combine, Harvesting of Roots and Potatoes, and Costs. An excellent chart showing seasonal labor requirements for four common crops will give invaluable help to those planning rotations involving these and similar crops.

The numerous recent improvements in farming methods are adequately described. Terminology has been updated in line with revised nomenclature regarding chemical fertilizers. The chapter on Costs, though short, will aid many farmers in their planning and budgeting of both time and money.

Principles as well as practices are discussed—-making the book of great value to students, agricultural workers, and practical farmers. The clear, flowing language make it a pleasure to read—a good typography adding to this pleasure.