
This hard-bound volume is a collection of reports on the biological studies made with fission products from atomic weapons trials held in Australia in October 1956. A paper-bound edition was published by the United Kingdom Atomic Energy Authority in May 1959 as Report No. T 57/58 of the Atomic Weapons Research Establishment. The present volume is unchanged except for the addition of two short reports on studies with fission products from a megaton weapon fired at Christmas Island in 1957. The studies include measurements of fallout on grass and legume vegetation; distribution of individual fission products in rabbits, sheep, and dairy cattle; and excretion of fission products in cow's milk. Calculations of radiation dosage from absorbed nuclides to gut, thyroid, and skeleton are illustrated.

The reports are not well coordinated and the book would have gained much in readability from a more detailed introduction and more rigorous editing to eliminate repetitious material from the individual reports. The individual reports give original data and a more adequate description of the methods used. These reports are invaluable source material for specialists concerned with biological effects of radioactive fallout.—RONALD G. MENZEL, Soil and Water Conservation Research Division, ARS, USDA, Beltsville, Md.

RUSSIAN-ENGLISH DICTIONARIES.


Persons beginning to read Russian literature in soil science will find that the Callaham's Russian–English Technical and Chemical Dictionary as well as Muller's Russian–English Dictionary (or some other standard Russian–English dictionary) are essential. But many vernacular Russian terms, especially from different Republics, are present in the Russian articles in soil science and these terms may more often be found in the listed dictionaries.

The most useful of the three for the soil scientist will be the Agricultural Dictionary. It has about 6,000 botanical terms and is intended for the field of soil and plant nematics. Russian entries are arranged alphabetically. Russian vernacular terms for plants and animals are given in English equivalents which at times are difficult to interpret but their equivalent Latin names are included. Names of fertilizers, pesticides, and agricultural chemicals are given with English equivalents as well as their chemical formulas, thus, enhancing the usefulness of the dictionary. Soil science terms are taken from the Multilingual Vocabulary of Soil Science (1955). The Agricultural Dictionary contains a list of abbreviations and symbols in general use in Russian agricultural literature with the English equivalents. This list in itself is valuable to the reader of Russian soil science literature.

Many terms dealing with geology, mineralogy, and some geographical names may not appear in the Agricultural Dictionary but may appear in the Geological Dictionary which contains 85,000 entries in general geology, hydrology, geomorphology, mineralogy, petrography, stratigraphy, crystallography, etc. Immediately after the Russian terms, Russian phrases and idioms used in geology are given with English equivalents.

The Botanical Dictionary will be used the least by the soil scientist. The Agricultural Dictionary will contain most of the botanical terms encountered in the Russian soil science literature. Occasionally, articles on soils will have many plant names, then he may need the Botanical Dictionary. It has about 6,000 botanical terms of which about 30% are plant names with reference to families to which they belong. The botanical entries are arranged in Russian and numbered, followed by their equivalents in English, German, French, and Latin. Half of the book is given to arrangement of botanical terms alphabetically in English, German, French, and Latin with the Russian index number.

Since it is difficult to obtain Russian books directly from Russia, the dictionaries may be ordered from Victor Kamkin Bookstore, 2006—14th Street, N.W., Washington 9, D. C.—A. P. MAZURAK, University of Nebraska.

RADIOISOTOPES IN THE BIOSPHERE. Edited by Richard S. Caldecott and Leon A. Snyder. A symposium at the University of Minnesota, R. S. Caldecott, Chairman. October 1959. $8.00.

The volume is a collection of prepared papers presented at a symposium on the ecology of radioisotopes organized by the University of Minnesota, The National Science Foundation, the Atomic Energy Commission, and the Agricultural Research Service of the U.S.D.A. The symposium was concerned with the discussion of research findings and the deficiencies of our present knowledge relating to the pathway of the radioisotopes from the time they enter to the soil until they are excreted by living systems.

The information should be of vital interest to the soil scientist and to the agronomist. It provides information regarding the quantities of both naturally occurring and man-made radioisotopes in the soil and traces the pathway of these isotopes through the biological chain. The entry and distribution of radioisotopes in plants is thoroughly discussed. Particular emphasis was also given to the ingestion of radioisotopes by animals and man, their possible genetic effects, toxicity and methods of elimination. The information presented in this symposium is evidence of the growing body of literature on this subject and the increasing number of workers interested in this field. No one interested in living systems will want to be without this book containing valuable references in this field.—N. D. BHURE, Postgraduate Fellow, University of Wisconsin.


This book represents another important contribution to the relatively undeveloped but rapidly progressing field of nematology. It is specifically designated as a text and guide book for students and workers in nematology and other agricultural sciences. Plant parasitic nematics are stressed, approximately 100 free living species are described and illustrated. The text is well written, adequately documented, and contains numerous excellent illustrations.

The author has approached his subject matter primarily from the taxonomic point of view; however, ecological, biological, and control aspects are adequately handled. The first chapter contains an introduction, presents an excellent history of the field, discusses the role of plant parasitic nematics in agriculture, methods of control, and experimental techniques, and offers suggestions for research. The second chapter presents the techniques for collecting soil and plant samples and for separating the nematics from these materials; the third deals with microscopic techniques, morphology and identification; and the fourth outlines the essentials of classification. The remaining chapters, namely 5 through 17, present more detailed information on the groups of nematics considered to be of greatest importance to agricultural scientists. Such items as morphology, life history, identification, distribution, hosts, symptomology of infested plants, and control are stressed.

The great enthusiasm of the author for the field of nematology is evident to the reader. In the discussion of certain complex root-parasite relationships such as the citrus replant problem, where organisms in addition to nematics are known to be involved, the role of the nematics may even be slightly overemphasized. In the discussion of techniques, the comfort of the investigator is considered and even medical advice is offered, e.g.: "If eyestrain develops from excessive use of the microscope, take 5,000 to 10,000 units of vitamin A each day."

A few critical comments of minor importance may be made. Many nematologists do agree with the statement on page 32 that nemas with large apertures are more easily killed by soil fumigants than are those with minute apertures. Space is given to the questionable genus and species, Chitinolenchus paragracilis while Pratylenchus parapracticus is omitted. A text or reference book may not be the proper place to describe a new species (page 397). A brief discussion of the influence of fumigation treatments on the chemical and additional microbiological properties of soils placed in Chapter One, would have perhaps been in order. These points, however, are not serious. The book represents an excellent general guide to obtain general information on nematology and will be very useful to nematologists, plant pathologists, soil microbiologists, and other interested agricultural and biological scientists.—J. P. MARTIN, University of California, Riverside.