

New Books

Atomic Energy in Agriculture

WILLIAM E. DICK, Philosophical Library, New York. \$6.00. Reviewed by A. T. WALLACE, University of Florida, Gainesville.

AT THE International Conference on Peaceful Uses of Atomic Energy held at Geneva in August 1955, there was presented an abundance of facts which deserve being disseminated at a level understandable to the general scientific reader. William E. Dick not only has done an excellent job in presenting at this level the reports given by the scientists on the uses of atomic energy in research related to agriculture, but also gives background necessary for understanding some of the research reports. Mr. Dick does a surprisingly good job in presenting the information at a rather high level, yet keeping it interesting and understandable to the general scientific reader.

One of the most exciting subjects that has gained prominence in recent years is radiation genetics. Mr. Dick reviews this field from the early works of Muller and Stadler to present-day applied research which is improving agricultural crops by inducing gene mutations with ionizing radiations. The research of Singleton, Gregory, and Sparrow in the United States, as well as that of scientists in other countries, is described.

The fact that ionizing radiations induce gene mutations and chromosome aberrations which lead to the failure of cell division points to a way of destroying pests such as insects and disease organisms. Products like stored grain are being treated with ionizing radiations to destroy the insect pests. Radioactive tags are being attached to insects and animals such as moles to follow—with Geiger counters—their movement and life cycle.

The many radioactive isotopes now available are being used for study in an attempt to understand such processes as photosynthesis, the path and function of mineral elements in plants, transpiration rates, the application of fertilizer through roots and leaves, the insecticidal action of effective insecticides, root grafting among forest trees, and the spread of disease organisms. Each of these topics is discussed by Mr. Dick.

One of the most popularized fields of research with atomic energy is that of food preservation. X-rays, gamma rays, cathode rays, and beta rays are safe for use in preserving meat and

vegetables. Other ionizing radiations leave the food radioactive. There are some undesirable changes in the chemical composition of foods induced by the radiations. For example, radiation increases the content of hydrogen sulfide in meat, giving it a "goaty" flavor. If radiation is done in the absence of oxygen or at very low temperatures, this off-flavor is reduced. However, more research is necessary before this technique of food preservation can be applied on a commercial scale.

This book, the only one of its nature in these new fields of research, is interesting and informative reading for the general scientific reader.

Let's Take a Trip to a Fishery

SARAH R. RIEDMAN, Abelard-Schuman, New York 1957. 127 pages. \$2.75. Reviewed by FRANCIS JOSEPH WEISS, consultant on food and nutrition, Arlington, Va.

After the many comprehensive and scholarly works that recently have appeared on fish, fishing, and fisheries technology, it is a real delight to read what an eminent biologist has to say about this fascinating subject. In simple language Dr. Riedman tells about the various kinds of fish, and their uses for food, feed-stuff, and industrial raw materials. She explains the methods by which fish are caught, processed, stored, and shipped, and describes numerous delicious and nutritious dishes in which they are consumed and which are mostly recent developments of food technology. Her words are illuminated by beautiful pictures, drawings, maps, and charts, of which the "Fish Map of The United States" and the "Continental Shelf and Banks" are particularly instructive. For teen-age or younger children who wish to familiarize themselves with this vast subject, Dr. Riedman's book is highly recommended.

1958 Pesticide Compendium

The Association of American Pesticide Control Officials, Inc., announces availability of the 1958 edition of its publication "Pesticide Chemicals Official Compendium."

This edition lists 230 pesticide chemicals currently used for the control of insects, fungi, rodents, and nematodes, and for the modification of plant growth. The chemical, common, and trade names, molecular weights and physical properties, ref-

erences to methods for analysis (macro, micro, and residue), data on toxicity and first aid, precautions for handling and use, spray residue tolerance, uses and types of formulations (where available) are given. Past editions have proved useful to food and drug officials, chemists, pharmacologists, physicians, and poison-control center personnel as well as pesticide control officials, entomologists, and plant pathologists.

Each chemical is presented in a loose-leaf entry which will be kept up-to-date annually by the addition of new and revised data sheets. A six-ring hard back cover is provided at a total cost of \$4.50 per copy.

Copies may be ordered from: A. B. Heagy, Secretary-Treasurer, Association of American Pesticide Control Officials, Inc., Box HH, University P.O., College Park, Md.

Films Available

The control of Johnson grass in cotton fields is explained in the film "The Enemy Underground," now being released by Dow Chemical Co. Film, 12 minutes in length, is designed for classroom or farm-meeting use. It is available free from college film libraries in cotton states or from Modern Talking Picture Service.

Sound-and-color 16 mm. film portrays how soil fumigation increases crop yields. It depicts modern methods of applying liquid soil fumigants; problem-and-solution sequences show how soil fumigation controls pinkroot, oakroot fungus, nematodes, and weeds and soil pests in seed beds. Prints of this 12-minute film may be obtained from Dept. A&F, Stauffer Chemical Co., 380 Madison Ave., New York 17, N. Y.

LITERATURE AVAILABLE

Corn's Uses in Industry. Comprehensive, nontechnical booklet, "Corn in Industry," designed as teaching aid for high school and college students, and as a reference work for agricultural and industrial libraries. Available from Dept. A&F, CORN INDUSTRIES RESEARCH FOUNDATION, INC., 3 East 45th St., New York 17, N. Y. or at 1001 Connecticut Ave. N.W., Washington 6, D. C.

Trailer Sprayer. Data sheet on heavy duty, all steel trailer sprayer and accessories. Trailer equipped with six barrel hook rods and may be used with one to three 55-gal. drums. For details, write Dept A&F, F. E. MYERS & BRO. Co., Ashland, Ohio.