

New Books . . .

Principles of Fungicidal Action

By JAMES G. HORSFALL, *Chronica Botanica Co.*, Waltham, Mass. xx + 279 pages. \$6.50. 1956. Reviewed by HUBERT MARTIN, Science Service Laboratory, University of Western Ontario Sub Post Office, London, Ontario, Canada.

IN MOST RESPECTS this book is a second edition of the author's "Fungicides and their Action," published in 1945. But, because the theme of the earlier book was the use of the dosage-response curve in the elucidation of fungitoxicity whereas the present book is concerned with broader mechanisms of fungitoxicity and their dependence on molecular structure, the change of title is justifiable.

Chapters on the measurement of fungicidal efficiency are followed by vivid discussions of the physical factors involved, preparing the reader for a detailed treatment of the major groups of fungicides, namely, the metallic cations, sulfur and organic sulfur compounds, quinones and heterocyclic compounds, and the biochemical lesions thought to be associated with their fungicidal activities.

These discussions are masterful and Dr. Horsfall covers a vast territory leaping from one experimental observation to another with the nimbleness of a mountain goat. In selecting his path he has a tendency to avoid data which might disrupt his balance, and even to distort the facts in order to obtain a better foothold. Such distortions would be excusable if they did not mislead the student. In table 2 on page 69, for example, the results of Weiss and his colleagues on the effects of derivatives of solanone on the growth and fat content of *Fusarium lini* are quoted with the implication that anhydrosolanone and its monoacetate are the 3,5- and 3, 5, 8-alkoxy-substituted demethylated solanone (which is given in error as dimethylsolanone).

It is not surprising that so imaginative an author as Horsfall should scorn conventional terminology. His free use of simile, metaphor, and slang brightens his text but creates difficulties to those of non-English mother tongue. He who has never "set the Thames on fire" might look askance at the two nitro groups of 2,4-dinitro-6-caprylphenylcrotonate when he reads on page 33 that this compound "caught fire as a protectant against powdery mildew" but would search in vain for the reason, on page 209, why mercaptobenzothiazole "never

quite caught fire as a commercial fungicide." It is a moot point whether the author of a book of this calibre, which will be in the library of every phytopathologist, should add to the reader's difficulties by resort to idiom; the author's ideas would sparkle and stimulate even if written in the dullest of prose. Nor should the author resort to unconventional spelling; "toxiphore" and "mitochondria" replace "toxophore" and "mitochondria" consistently; the first is excusable, the second is inexcusable philologically.

In reviewing the author's 1945 text I wrote "every page, nearly every paragraph, contains a suggestion for further study and not one of his hypotheses is of the blind alley type which, by not being susceptible to practical test, serves only to encumber the work. It will be fascinating to watch in further editions of this book the development of ideas with which it has been so fascinatingly enriched." Many of Dr. Horsfall's leads have led to far-reaching, practical results, and the present book is packed, not only with verifications and modifications of the author's earlier ideas, but with new hypotheses providing additional valuable guides to those searching for new fungicides, or seeking the better use of known fungicides.

LITERATURE AVAILABLE

Antioxidant. Antioxidant AC-3, generally used in human consumer goods, animal feeds, and in packaging materials to protect against spoilage due to oxidation, described in eight-page booklet. In poultry feed, the antioxidant stabilizes vitamins A, D, and E, and also improves skin pigmentation by increasing utilization of carotene. In cattle and swine feeds it is used to check rancidity of natural and added fats. Brochure available from Robert Woodard, Dept. A&F, CATALIN CORP. OF AMERICA, 1 Park Ave., New York 16, N. Y.

Glutamate. Booklet "The Value of Glutamate in Processed Foods," can be obtained from Dept. A&F, GLUTAMATE MANUFACTURERS' TECHNICAL COMMITTEE, Information Service, 214 Front St., San Francisco 11, Calif.

Heteropolymolybdates. Properties, uses, classification, nomenclature, and preparation of heteropolymolybdates covered in 15-page bulletin, which also contains section on use of literature on these compounds, sug-

gested bibliography as guide, and 41 references to data cited. Ask for Bull. Cdb-12, Dept. A&F, CLIMAX MOLYBDENUM Co., 500 Fifth Ave., New York 36, N. Y.

Labeled Compound Catalog. New catalog lists large number of labeled compounds, including those labeled with carbon-14, phosphorus-32, sulfur-35, and deuterated and tritiated compounds. Also describes company's isotope laboratory equipment and services in applied nuclear research. Dept. A&F, VOLK RADIO-CHEMICAL Co., 5412 North Clark St., Chicago 40, Ill.

Laboratory Crushers. Description of laboratory crushers, used for crushing laboratory samples, and making pilot runs on corn, fertilizers, insecticides, phosphates, and other diverse materials, to be found in new illustrated bulletin. Ask for Bull. 157, Dept. A&F, AMERICAN PULVERIZER Co., 1249 Macklind Ave., St. Louis 10, Mo.

Low-Cost Antioxidants. Isoascorbic acid and sodium isoascorbate, low-cost antioxidants, are described in five-page technical data sheet. Bulletin details physical and chemical properties and applications of the new products and compares them with ascorbic acid and sodium ascorbate. New iso forms are described as having antioxidant activity equivalent to the vitamin forms. Bull. No. 523, Dept. A&F, CHEMICAL SALES DIVISION, CHAS. PFIZER & Co., INC., 630 Flushing Ave., Brooklyn 6, N. Y.

Purified Soybean Protein. Technical bulletin contains data on new source of high purity protein for nutrition investigations. It is being used in diets for growing chicks and laying-hens, for growing and weanling pigs, and as sole source of protein in rat experiments. Dept. A&F, THE DRACKETT PRODUCTS Co., 5020 Spring Grove Ave., Cincinnati 32, Ohio.

Safety Folder. Company offering revised edition of wallet-sized safety folder featuring a revised list of antidotes for all agricultural chemicals, including newer insecticides such as Phosdrin, Thimet, and Guthion. A new section concerning disposal of empty containers is included together with a list of the latest approved equipment for handling of agricultural chemicals. Dept. A&F, UNITED-HECKATHORN, 600 South Fourth St., Richmond, Calif.