Book Reviews

Fungicides and their action. James G. Horsfall. Waltham, Mass.: Chronica Botanica, 1945. Pp. 239. Illustrated. $5.00.

This book, by a leading authority on fungicides, is the first in English exclusively on this important subject. It is especially welcome to plant pathologists for whom the principal treatises on fungicides have been in books devoted mainly to insecticides, with fungicides treated as a secondary, but related, subject. Horsfall has devoted most of the past fifteen years to intensive research on fungicides, and he and his associates at Geneva, New York, and at New Haven, Connecticut, have contributed many of the noteworthy advances in the knowledge of fungicides during that period. The present volume, as the writes states, "... is no cook book. It provides no recipe for cooking railroad ties in creosote, no spray schedule for combating apple scab or potato blight. It attempts to develop the underlying theory on which the practice is based, and by which the practice may be improved." In this he has signally succeeded. This book would constitute a fine textbook on the subject and an excellent handbook for professional plant pathologists, but would be of less value to extension men or growers.

Some of the important subdivisions of the subject matter are: history, general concepts (including definitions), laboratory assay, data assessment, principles of chemical protection, deposition, coverage, tenacity, artificial immunization and chemotherapy, action of specific fungicidal chemicals, antagonism and synergism, and phytotoxicity. There is a bibliography of 502 titles, a subject index, and an author index. The treatment is up to date. Some topics, such as chemotherapy and organic nitrogen fungicides, refer mostly to work in the past ten years, and much of the information on toxicity of organic compounds consists of previously unpublished data of the writer and associates. The various basic methods by which a parasitic organism may be rendered innocuous by chemicals are described and classified with examples. The treatment of bio-assay by means of straight-line dosage response curves is one of several unique features of the book. In addition to reviewing data previously presented in this way the writer has recalculated data in the literature in order to present it in this illuminating manner. There is an excellent treatment of toxicity and its relation to the molecular structure of organic compounds. The structural formulae of the more important members of several groups of fungicidally interesting compounds is given. Statistical methods and chemical analytical methods are largely omitted.

The documentation is quite thorough, but errors and omissions have crept in. On page 16 Horsfall refers to Neuberg's bio-assay of soil fertility, when he likely meant Newbauer, and no reference is given. On page 91 he refers to Wilson's data on coarse Bordeaux deposits, but the reference is to a paper which does not contain this information, and the correct reference is not included in the bibliography.

The manner of writing is more successfully designed for reader interest than is most scientific writing. Some will wonder, however, if "dunking" of spores is superior to dipping, and what the writer means by "smoked out the dithiocarbamates."

To treat the subject of fungicides in 188 pages of text necessitates the omission of much pertinent material, and it is to be expected that the balance chosen would be subject to criticism. Some of the more vulnerable aspects may be pointed out. Most of the specific data on foliage fungicides refers to tests on glass slides, and this is the only technique given in detail. The matter of tests on leaves is treated in fourteen lines and dismissed with the remark: "No evidence has been adduced yet that this procedure is more precise or reproducible or indicative than modern methods using the much simpler equipment for spore germination." Data in some of the papers listed in the bibliography as well as in others not listed indicate that this is not the case. And how do tests on slides require simpler equipment than tests on leaves? Not all will agree with the author's apparent attitude (previously published) that organic fungicides will soon replace the inorganics, and that "... . Bordeaux mixture and elemental sulfurs will be turned out on pasture to spend their last years in leisure as a reward for a good job well done." In the history of fungicides, credit for introducing copper carbonate for wheat bunt is given to Darnell-Smith (1917), and Von Tubeuf's recorded success with this remedy in 1902 is not mentioned. Nevertheless, this book may itself be a landmark in the history of fungicides.

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L'hérédité et l'homme. Jacques Rousseau. Montreal: Les Editions de L'Arbre, 1945. Pp. 250.

The author has prepared a brief résumé of the physical basis and methods of inheritance and catalogued into appropriate divisions many human hereditary characteristics. The genetic bases of most of these traits are discussed only briefly, and some of them are reported to have a simpler type of inheritance than facts justify. The author has a manner of expression which engages the reader's attention. Original sources of data are not usually given.

Except for an occasional gem of humor, nothing unusual is found in the chapters dealing with the elements of heredity. Diagrammatic figures used to explain genetic crosses are well done and helpful to a reader. A chapter on sex determination includes folk tales about sex control. It is unfortunate, however, that with his references to the use of a douche by Unterberger, by investigators using experimental animals to get a preponder-