PESTICIDE HANDBOOK (1954)
By Donald E. H. Freer, State College, Pa.: College Science Publishers, Ed. 6, 196 pages, 1954. $1.25 paper bound; $3.00 cloth bound.

In its sixth edition, Pesticide Handbook lists 5,725 pesticide preparations, under their commercial or trade names, with information on their active ingredients. The term, pesticides, includes weed, insect, rodent, and fungus killers. The handbook also contains a list of pesticides under their chemical names. This list is keyed by number to enable one to look up all the commercial preparations derived from any one chemical compound. A list of pesticide manufacturers is similarly keyed, and it is a simple matter to find a complete enumeration of all the products made by each manufacturer. This is a useful manual for the farm supply dealer, county agent, vo-ag instructor, and the farmer, who makes extensive use of pesticides.

SULPHURIC ACID AND THE MANUFACTURE OF PHOSPHATIC FERTILIZERS

This report was compiled by a "working party" of the OEEC sub-committee for scientific research and technical development: appointed to study methods for saving sulphuric acid in the production of phosphate fertilizers. It outlines the principal methods used in member countries for the manufacture of alternative phosphate fertilizers, and indicates what raw materials are required, but does not describe the chemical reactions at each stage of the processes. The processes outlined are those used by various European firms with a separate list of new methods for producing phosphate fertilizers in the U. S. The book points out that the report does not assess the relative economic values of the various processes because of differences in the economic structure between countries as well as differences in general agricultural conditions.

Among the conclusions reached are the following: Extensive use of non-sulphuric acid processes depends upon the capacity for nitrogen fixation in each country; reduction of phosphate rock by the electric furnace process is economical only where cheap electric power is available; introduction of "complex" fertilizers (two or three plant nutrients obtained by chemical reaction between the raw materials) may depend upon officially-recognized tests for each solubility; more data are needed on difference in crop response under the same conditions with the two types of fertilizers, "compound" (obtained by a simple mixture of fertilizers prepared separately) and "complex." The report recommends that a competent OEEC committee assemble all existing works on the agronomic results obtained in the use of "complex" fertilizers. A chapter each is devoted to the following: "complex" fertilizers, dicalcium phosphate, ammonium phosphates, ammoniated superphosphates, thermal processes and ground rock phosphate.

DIAGNOSIS AND IMPROVEMENT OF SALINE AND ALKALI SOILS

The U. S. Salinity Laboratory was established in 1937 and soon became recognized throughout the world as a focal point for research and information on soils affected by salt. Although many excellent publications have been issued by the U. S. Salinity Laboratory Staff, this handbook best typifies their accomplishments. As the name indicates, this is largely a manual of methodology with just enough general information to give a setting for the procedures and techniques. The handbook presents a series of methods used successfully in the Salinity Laboratory for characterizing the salt; the chemical constituents, including exchangeable cations; and the physical properties of soils. It also gives methods for the complete analysis of irrigation waters and soil extracts. The methods range from quick approximate field tests to more precise and detailed laboratory procedures. Practical procedures are outlined for using such data in selecting the best practices for soil treatment to reduce exchangeable sodium, for planning adequate drainage systems, for the selection of crops adapted to specific salinity conditions, and for the best management of irrigation waters of known salt status. Particularly helpful are a number of graphs, tables, nomograms, and diagrams which reduce laborious calculations to minimum and which serve as aids for rapid interpretation of data.

The handbook was first issued in multilithed form in 1947. The first edition was widely adopted as the standard reference on characterization of saline and alkali soils. The changes between the first and this revised edition emphasize the rapid gains in technical knowledge in this field. A few of the noteworthy changes include: improved procedures for evaluating the sodium hazards of soils and irrigation waters and for measuring the water-transmitting properties of soils; more reliable salt tolerance ratings of crops; and a more complete interpretation of the significance of indicator plants.

The manual is a gold mine of information for workers in the field of saline and alkali soils. But all soil scientists will find procedures helpful in characterizing soils and in developing practical answers to many soil-management problems.—D. W. THORNE.

SILAGE FERMENTATION

Silage Fermentation is a technical book intended for the research worker and the college student. The author is a lecturer in agricultural biochemistry, Department of Biological Chemistry, University of Aberdeen, Scotland.

The first portion of the book is devoted to the general silage process; the use of acids and other additives in silage making; field, laboratory, and trial silos; and losses in the ensilage process. This portion will have a somewhat wider audience than the latter half of the text, which is designed for the technical worker.

Among the subject matter headings in the second portion of the book are: formation of lactic acid in silage fermentation; formation of the lower fatty acids, amino acids, and volatile bases in silage fermentation; analysis of field and laboratory silage; special techniques of analysis; and digestibility and nutritive value of silage. This part will be of value both to the crop worker interested in preserving forage crops and to the feeding specialist interested in the kind of feed which emerges from the silo.

THE WORLD OF LEARNING

This is the fifth revised edition of the well-known reference work which brings together into 1000 pages a wealth of information on the educational, scientific and cultural life of every country of the world which would otherwise call for search in numerous separate sources. The opening section is devoted to UNESCO, giving its origins, aims, functions and organization as well as an account of its recent activities. This is followed by a list of international scientific and cultural organizations. The remainder provides detailed information about academies, learned societies, research institutes, libraries and archives, museums and art galleries, universities, colleges and technical institutes throughout the world. This most recent edition is almost double the size of the first edition, and has added much new material since the previous (1952) edition.