New Books

Soils and Soil Fertility

By Louis M. Thompson. 2nd Edition, McGraw-Hill Book Co., Inc., New York, 451 pages, $6.50. Reviewed by K. C. Berger, Department of Soils, University of Wisconsin, Madison 6.

This second edition of "Soils and Soil Fertility" has been prepared as a text for an introductory course in soils for students in agriculture. It is intended that the book cover, in general, the entire field of soils. The following chapters are included:

Physical Properties of Soils; Soil Moisture; Organic Matter of Soils; Chemical Composition of Soils; Soil Formation and Classification; Clay Minerals, Acidity, and Alkalinity; Principles and Practices of Liming; Nitrogen; Phosphorus; Potassium; Fertilizers; Utilization of Farm Manure; Sulfur and the Minor Elements; Variations in Plant Composition; Crop Rotations and Soil Fertility; and Soil Erosion and Its Control.

Pertinent literature is cited at the end of each chapter in rather voluminous quantity, and the book is profusely illustrated with tables (133), and figures (163). Many of the graphs have been prepared by the author. Considerable emphasis has been placed on soil structure and related physical properties, mechanisms of aggregation, relationship of soil fertility to moisture, water conservation and management, weathering of clay minerals, anion relationships, and soil erosion and its control. It would be well for the student to have at least one chemistry course as a background for using this book.

In the chapter on phosphorus, there is some confusion as to the use of the term phosphorus (P) versus phosphoric anhydride (P_2O_5), commonly miscalled phosphate. A somewhat similar situation exists in the chapter on potassium, but both chapters are quite comprehensive.

In the chapter on farm manure the author points out that about a billion tons of manure is produced each year on American farms, with a value greater than that of the nation's wheat crop. Various management practices to conserve nitrogen in manure are gone into thoroughly, with recommendations for use.

In the chapter on crop rotations and soil fertility, the classical long-time crop rotation experiments are studied in detail; the author points out that in recent years continuous corn appears to be feasible on nonerosive land because of changes in fertilizer technology and practices. "Soils and Soil Fertility" is a relatively advanced book, comprehensive in literature citation and tables, with a great deal of the information drawn from the author's experience in Iowa and Texas.

LITERATURE AVAILABLE

Anion-Active Wetter Penetrant. Compound, compatible with alkali, acid, and salt systems, useful at low percentage levels in many applications. Ask for Tech. Bull. 358-1, Dept. A&F, Sole Chemical Corp., 27 E. Monroe St., Chicago 3, Ill.

Antioxidant. Technical bulletin on use of BHT antioxidant, called Dalpac, for stabilizing fish meal, includes discussion of problems encountered by fish meal producer, and methods and benefits of applying Dalpac. Dept. A&F, Hercules Powder Co., Wilmington 99, Del.

Dairy Separators and Clarifiers. Line of dairy separators and clarifiers described in 16-page catalog which features illustrations, tables of rated capacities, and schematic drawings of typical dairy set-ups. Dept. A&F, Centrico, Inc., 75 West Forest Ave., Englewood, N. J.

Film on Nitrogen. Educational color film shows a kernel of corn sprout and grow to full-sized stalk in a matter of minutes. The 25-min. non-commercial film, with sound narration, is called "Nature's Need for Nitrogen," produced by Standard Oil Co. (Ind.) and filmed by John Ott, Winnetka, Ill., a specialist in time-lapse photography. Film may be booked in the Midwest through Dept. A&F, Nitrogen Products Department, Standard Oil Co., 910 S. Michigan Ave., Chicago 5, Ill.

Food Irradiation. Technical report, on the generation of gamma rays (Bremsstrahlung) for experimental and commercial food irradiation, may prove useful in planning radiation research programs and laboratories, in designing commercial irradiation installations, and in investigating the technical and economic feasibility of high energy radiation processing itself. It is available from Dept. A&F, Applied Radiation Corp., 2404 N. Main St., Walnut Creek, Calif.

Light Scattering Instruments. Information on three new light scattering instruments given in bulletin, which also lists technical references to new applications. Instruments designed for measurement of absolute turbidity, dissymmetry, and depolarization of dilute solutions. Ask for Bull. BP-1000 B, Dept. A&F, Phoenix Precision Instrument Co., 3803-05 N. Fifth St., Philadelphia 40, Pa.

Narrow Aisle Equipment. Illustrated bulletin describes narrow-aisle, outrigger-type, and reach-fork, tiering trucks, and 13 special models for solving specific handling problems. Also shown are hand trucks, a 2000-lb. capacity pallet truck, and 4000-lb. electric Walkie. Bull. 201, Dept. A&F-160, The Raymond Corp., 328 Madison Ave., Greene, N. Y.

Polyvinyl Chloride Pipe. Specific information on the general characteristics of PVC pipe, its properties, applications, and installation data in 30-page catalog. Included is an 8-page chart which classifies the corrosion resistance ratings of Types I and II PVC, low carbon steel, three classes of stainless, cast iron, aluminum, copper, red brass, lead, Monel, and Inconel with 383 chemicals. Listing of chemicals includes organics and inorganics ranging from the strongest acids to the strongest alkalies. Catalog available from Dept. A&F, Engineering Service, A. M. Byers Co., Clark Bldg., Pittsburgh, Pa.

Separator Catalog. Vibrating screen separators used in screening all types of dry materials and separation of solids from liquids. Ask for Bull. S 574-1, Dept. A&F, Separator Division, Southwestern Engineering Co., 4800 Santa Fe Ave., Los Angeles 58, Calif.

Silage Preservative. Folder outlines how unwilted forage can be ensiled and protected against spoilage and loss of nutrients by applying sodium metabisulfate, called Sil-Aid. Contains instructions for applying the preservative and lists recommended rates of application according to various types of silos and silo feeder settings. Dept. A&F, Virginia Smelting Co., West Norfolk, Va.

Solvent Emulsifier. Technical bulletin discusses a broad range type solvent emulsifier "Sole-Mulse B." This soapless emulsifier, built for wide spectrum of hydrocarbon solvents, provides hard or soft water emulsifiability at low use levels. Used to formulate industrial emulsions and specialty aerosols. Bull. 1057–2, Dept. A&F, Sole Chemical Co., 27 East Monroe St., Chicago 3, Ill.